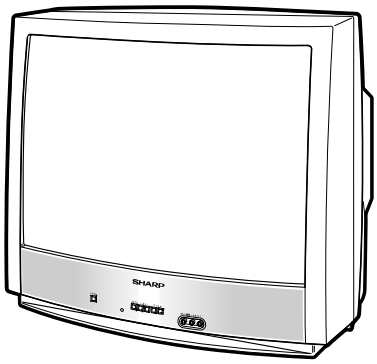
SHARP SERVICE MANUAL

S61W327R-S200



COLOR TELEVISION

Chassis No. MS-B

MODELS 27R-S200, 27R-S400 27R-S450, CR27S20 CSR20027

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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ELECTRICAL SPECIFICATIONS

POWER INPUT ..... 120V AC 60 Hz
POWER RATING 126W
PICTURE SIZE ..... 2,193.5cm^2 (339sq inch)
CONVERGENCE ..... Magnetic
SWEEP DEFLECTION ..... Magnetic
FOCUS ..... Hi-Bi-Potential Electrostatic
INTERMEDIATE FREQUENCIES
  Picture IF Carrier Frequency ..... 45.75 MHz
  Sound IF Carrier Frequency ..... 41.25 MHz
  Color Sub-Carrier Frequency ..... 42.17 MHz (Nominal)
AUDIO POWER
  OUTPUT RATING ..... 3.0W + 3.0W (at 10% distortion and Dual CH Operate)
SPEAKER
  SIZE ..... Round type 8 cm (2 pcs.)
  VOICE COIL IMPEDANCE ..... 8 ohm at 400 Hz
ANTENNA INPUT IMPEDANCE
  VHF/UHF ..... 75 ohm Unbalanced
TUNING RANGES
  VHF-Channels ..... 2 thru 13
  UHF-Channels ..... 14 thru 69
  CATV Channels ..... 1 thru 125 (EIA, Channel Plan U.S.A.)

Specifications are subject to change without prior notice.

SHARP CORPORATION

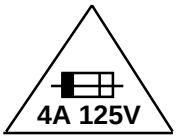
This document has been published to be used for after sales service only.
The contents are subject to change without notice.

IMPORTANT SERVICE SAFETY PRECAUTION

■ **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.
4. The chassis in this receiver has two ground systems which are separated by insulating material. The non-isolated (hot) ground system is for the B+ voltage regulator circuit. The isolated ground system is for the low B+ DC voltages and the secondary circuit of the high voltage transformer.
   To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.



CAUTION: FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A-125V FUSE.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the picture tube ground and the anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation, if the high voltage is as specified in the "High Voltage Check" instructions.
   It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube including the lead in the glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter.
   The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value –no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and;also, under certain conditions, may produce radiation in exceeding of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When trouble shooting and taking test measurements on a receiver with excessive high voltage, avoid being unnecessarily close to the receiver.
   Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

IMPORTANT SERVICE SAFETY PRECAUTION

(Continued)

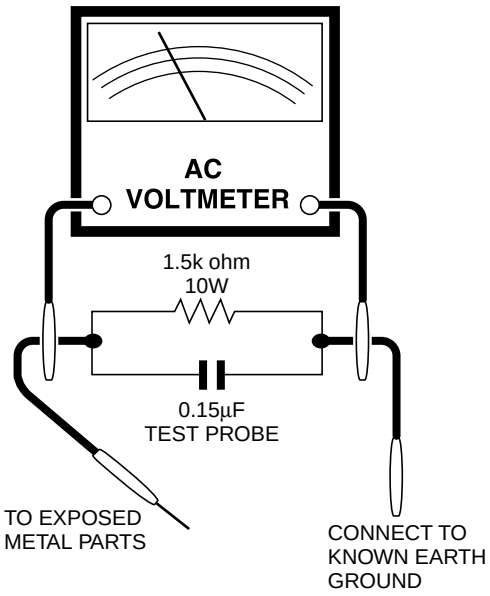
BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.

- Plug the AC cord directly into a 120 volt AC outlet, (Do not use an isolation transformer for this test).
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15µF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
  AII checks must be repeated with the AC line cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these check.)
  Any current measured must not exceed 0.5 milliamp. Any measurements not within the limits outlined above indicate of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.
Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts Lists and Schematic Diagrams.

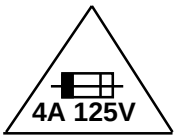
For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

PRECAUTIONS A PRENDRE LORS DE LA REPARATION

■ **Ne peut effectuer la réparation qu' un technicien spécialisé qui s'est parfaitement accoutumé à toute vérification de sécurité et aux conseils suivants.**

AVERTISSEMENT

1. N'entreprendre aucune modification de tout circuit. C'est dangereux.
2. Débrancher le récepteur avant toute réparation.
3. Les déversoirs thermiques à semi-conducteurs peuvent présenter un danger de choc électrique lorsque le réceqteur est en marche.
4. Le châssis de ce récepteur possède deux systèmes de masse qui sont séparées par du matériel d'isolation. Le système de masse non-isolée (sous tension) est pour le circuit du régulateur de tension B+ et le circuit de sortie horizontale. Le système de masse isolée est pour les tensions DC B+ basses et le circuit secondaire du transformateur haute tension. Pour éviter tout risque d'électrocution lors de l'entretien de ce châssis, utiliser un transformateur d'isolation entre le cordon de ligne et la prise de courant.



PRECAUTION: POUR LA PROTECTION CONTINUE CONTRE LES RISQUES D'INCENDIE, REMPLACER LE FUSIBLE PAR UN FUSIBLE DE MEME TYPE 4A-125V.

REPARATION DU SYSTEME A HAUTE TENSION ET DU TUBE-IMAGE

Lors de la réparation de ce systéme, supprimer la charge statique en branchant une résistance de 10 kΩ en série avec un fil isolé (comme une sonde d'essai) entre la mise à la terre du tube-image et le fil d'anodel. (Le corden d'alimentation doit être retiré de la prise murale.)

1. Le tube image dans ce récepteur emploie une protection intégrée contre l'implosion.
2. Par mesure de sécurité, changer le tube-image pour un tube du même numéro de type.
3. Ne pas lever le tube-image par son col.
4. Ne manipuler le tube-image qu'en porant des lunettes incassables et qu'après avoir déchargé totalement la haute tension.

LIMITES DES RADIATIONS X ET DE LA HAUTE TENSION

1. Tout le personnel réparateur doit être instruit des instructions et procédés relatifs aux radiations X.
   Le tube-image, seule source de rayons X dons les téleviseurs transistorisés, n'émet pourtant pas de rayons mesurables si la haute tension est maintenue à un niveau préconisé dans la section "Vérification de la haute tension".
   C'est seulement quand la haute tension est excessive que les rayons X peuvent entrer dans l'enveloppe du tube-image y compris le conducteur de verre. Il est important de maintenir la haute tension en-dessous du niveau spécifié.
2. Il est essentiel que le réparateur ait sous la main un voltmètre à haute tension qui doit être périodiquement étalonné.
3. La haute tension doit toujours être maintenue à la valeur de régime -et pas plus haute. L'opération à des tensions plus élevées peut entraîner une panne du tube-image ou du circuit à haute tension et, dans certaines conditions, peut entraîner une radiation dépassant les niveaux préscrits.
4. Quand le régulateur à haute tension fonctionne correctement, il n'y a aucun problème de radiation X. Chaque fois qu'un châssis couleurs est réparé, la luminosité doit être examinée bout en contrôlant la haute tension à l'aide d'un voltmètre pour s'assurer que la haute tension ne dépasse pas la valeur spécifiée et qu'elle soit correctement réglée.
5. Ne pas utiliser un tube-image autre que celui spécifié et ne pas effectuer de modifications déconseillées du circuit à haute tension.
6. Lors de la recherche des pannes et des mesures d'essai sur un récepteur qui présente une haute tension excessive, éviter de s'approcher inutilement du récepteur.
   Ne pas faire fonctionner le récepteur plus longtemps que nécessaire pour localiser la cause de la tension excessive.

PRECAUTIONS A PRENDRE LORS DE LA REPARATION

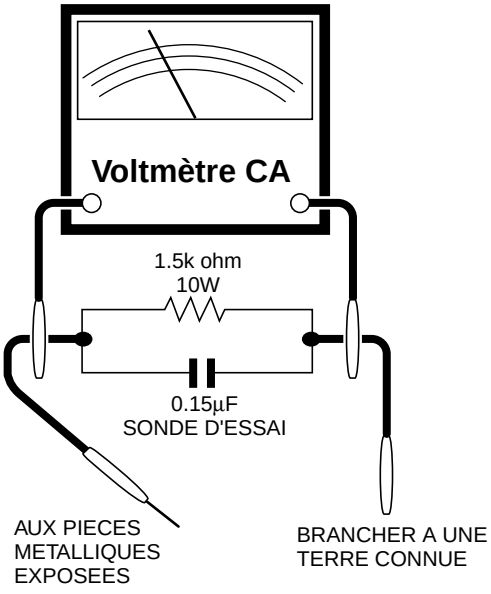
(Suite)

VERIFICATIONS CONTRE L'INCEN-DIE ET LE CHOC ELECTRIQUE

Avant de rendre le récepteur à l'utilisateur, effectuer les vérifications suivantes.

1. Inspecter tous les faisceaux de câbles pour s'assurer que les fils ne soient pas pincés ou qu'un outil ne soit pas placé entre le châssis et les autres pièces métalliques du récepteur.
2. Inspecter tous les dispositifs de protection comme les boutons de commande non-métalliques, les isolants, le dos du coffret, les couvercles ou blindages de réglage et de compartiment, les réseaux de résistance-capacité, les isolateurs mécaniques, etc.
3. S'assurer qu'il n'y ait pas de danger d'électrocution en vérifiant la fuite de courant, de la facon suivante:

- Brancher le cordon d'alimentation directem-ent à une prise de courant de 120V (Ne pas utiliser de transformateur d'isolation pour cet essai).
- A l'aide de deux fils à pinces, brancher une résistance de 1,5 kΩ 10 watts en parallèle avec un condensateur de 0,15µF en série avec toutes les pièces métalliques exposées du coffret et une terre connue comme une conduite électrique ou une prise de terre branchée à la terre.
- Utiliser un voltmètre CA d'une sensibilité d'au moins 5000Ω/V pour mesurer la chute de tension en travers de la résistance.
- Toucher avec la sonde d'essai les pièces métalliques exposées qui présentent une voie de retour au châssis (antenne, coffret métallique, tête des vis, arbres de commande et des boutons, écusson, etc.) et mesurer la chute de tension CA en-travers de la résistance. Toutes les vérifications doivent être refaites après avoir inversé la fiche du cordon d'alimentation. (Si nécessaire, une prise d'adpatation non polarisée peut être utilisée dans le but de terminer ces vérifications.)
  Tous les courants mesurés ne doivent pas dépasser 0,5 mA.
  Dans le cas contraire, il y a une possibilité de choc électrique qui doit être supprimée avant de rendre le récepteur au client.

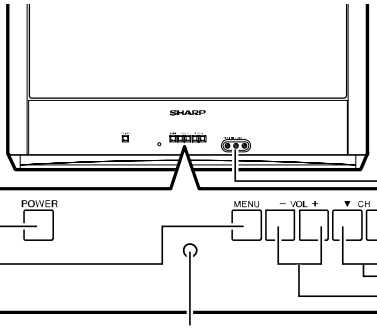


AVIS POUR LA SECURITE

De nombreuses pièces, électriques et mécaniques, dans les téléviseurs présentent des caractéristiques spéciales relatives à la sécurité, qui ne sont souvent pas évidentes à vue. Le degré de protection ne peut pas être nécessairement augmentée en utilisant des pièces de remplacement étalonnées pour haute tension, puissance, etc.
Les pièces de remplacement qui présentent ces caractéristiques sont identifiées dans ce manuel; les pièces électriques qui présentent ces particularités sont identifiées par la marque " ⚠ " et hachurées dans la liste des pièces de remplacement et les diagrammes schématiques.
Pour assurer la protection, ces pièces doivent être identiques à celles utilisées dans le circuit d'origine. L'utilisation de pièces qui n'ont pas les mêmes caractéristiques que les pièces recommandées par l'usine, indiquées dans ce manuel, peut provoquer des électrocutions, incendies, radiations X ou autres accidents.

LOCATION OF USER'S CONTROL
(27R-S200, CSR20027, CR27S20)

Front Panel



POWER
Press → On.
Press again → Off.

MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

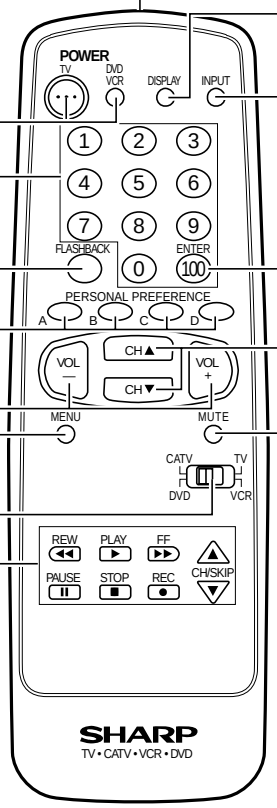
SENSOR AREA FOR REMOTE CONTROL

VIDEO/AUDIO IN 2 TERMINALS
(VIDEO/AUDIO terminals are also provided on the rear.)

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.
• Press both at the same time to access the MAIN MENU screen.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.

Basic Remote Control Functions



POWER
Press → On.
Press again → Off.

REMOTE KEYPAD
Accesses any channel from keypad.

FLASHBACK
Returns to previous channel.

PERSONAL PREFERENCE
With the Personal Preference buttons, you can program your favorite programs by using the 4 categories A, B, C and D. The channels can be accessed quickly by using these buttons.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.
• In menu mode, changes or selects the TV adjustments.

MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

CATV/DVD-TV/VCR MODE SELECT SWITCH
In TV/VCR position, sends power and channel select commands (Channel up/down and Random Access buttons) to the TV and VCR control.
In CATV/DVD position, sends power and channel select commands to a cable TV converter and DVD control.

DVD/VCR CONTROL

Infrared Transmitter Window

DISPLAY
Press → Displays receiving channel for four seconds.
Press again → Removes display.
• Temporarily displays receiving channel when in Closed Caption mode.

INPUT
Press → Switch to external video INPUT 1 mode.
Press 2 times → Switch to external video INPUT 2 mode.
Press 3 times → Switch to external COMPONENT mode.
Press 4 times → Switch back to the original TV mode.

ENTER
Used in some instances where a Cable Converter Box requires an "enter" command after selecting channels, when using the REMOTE KEYPAD button.

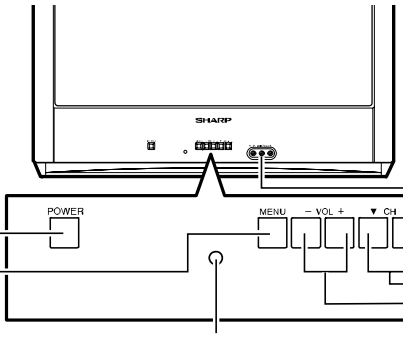
CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.
• Moves the " ● " mark of the MENU screens.

MUTE
Press → Mutes sound.
Press again → Restores sound.
• CLOSED CAPTION appears when sound is muted.

LOCATION OF USER'S CONTROL (Continued)

(27R-S400, 27R-S450)

Front Panel



POWER
Press → On.
Press again → Off.

MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

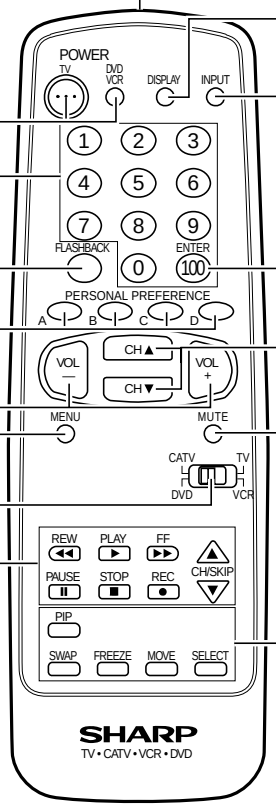
SENSOR AREA FOR REMOTE CONTROL

VIDEO/AUDIO IN 2 TERMINALS
(VIDEO/AUDIO terminals are also provided on the rear.)

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.
• Press both at the same time to access the MAIN MENU screen.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.

Basic Remote Control Functions



POWER
Press → On.
Press again → Off.

REMOTE KEYPAD
Accesses any channel from keypad.

FLASHBACK
Returns to previous channel.

PERSONAL PREFERENCE
With the Personal Preference buttons, you can program your favorite programs by using the 4 categories A, B, C and D. The channels can be accessed quickly by using these buttons.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.
• In menu mode, changes or selects the TV adjustments.

MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

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In TV/VCR position, sends power and channel select commands (Channel up/down and Random Access buttons) to the TV and VCR control.
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DVD/VCR CONTROL

Infrared Transmitter Window

DISPLAY
Press → Displays receiving channel for four seconds.
Press again → Removes display.
• Temporarily displays receiving channel when in Closed Caption mode.

INPUT
Press → Switch to external video INPUT 1 mode.
Press 2 times → Switch to external video INPUT 2 mode.
Press 3 times → Switch to external COMPONENT mode. (27R-S450 only)
Press 4 times → Switch back to the original TV mode.

ENTER
Used in some instances where a Cable Converter Box requires an "enter" command after selecting channels, when using the REMOTE KEYPAD button.

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.
• Moves the " ● " mark of the MENU screens.

MUTE
Press → Mutes sound.
Press again → Restores sound.
• CLOSED CAPTION appears when sound is muted.

PIP FUNCTION
With the VIDEO inputs, you can watch two pictures at the same time.

INSTALLATION AND SERVICE INSTRUCTIONS

Note: (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdrivers or TV alignment tools.
(2) Before performing adjustments, the TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The receiver is protected by a 4.0A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, B+ system, test the X-Radiation protection circuit to ascertain proper operation as follows:

1. Apply 120V AC using a variac transformer for accurate input voltage.
2. Allow for warm up and adjust all customer controls for normal picture and sound.
3. Receive a good local channel.
4. Connect a digital voltmeter to TP651 and make sure that the voltmeter reads 13.2 ±0.7V.
5. Apply external 16.3V DC at TP651 by using an external DC supply, TV must be shut off.
6. To reset the protector, unplug the AC cord and plug the AC cord power on. Now make sure that normal picture appears on the screen.
7. If the operation of the horizontal oscillator does not stop in step 5, the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode of picture tube.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with a strong air signal or a properly tuned in test signal.
3. Enter the service mode and select the service adjustment "V18" and Bus data "01" (Y-mute on, CRT Cut Off).
4. The voltage should be approximately 29.0kV (at zero beam).
   If a correct reading cannot be obtained, check circuitry for malfunctioning components. After the voltage test, make Y-mute off to the normal mode.

For adjustments of this model, the bus data is converted to various analog signals by the D/A converter circuit.

Note: There are still a few analog adjustments in this series such as focus and master screen voltage. Follow the steps below whenever the service adjustment is required. See "Table-B" to determine, if service adjustments are required.

1. Service mode

Before putting unit into the service mode, check that customer adjustments are in the normal mode. Use the reset function in the video adjustment menu to ensure customer controls are in their proper (reset) position.

2. Service number selection

Once in the service mode, press the Ch-up or Ch-down button on the remote controller or at the set. The service adjustment number will vary in increments of one, from "V01" to "P08". Select the item you wish to adjust.

3. Data number selection

Press the Vol-up or Vol-down button to adjust the data number.

To enter the service mode and exit service mode.

To enter the service mode manually just press and hold the Vol-down and Ch-up buttons at the same time, plug the AC cord into a wall socket.
Now the TV set is switched on and enters the service mode.
To exit the service mode, turn the television off by pressing the power button.

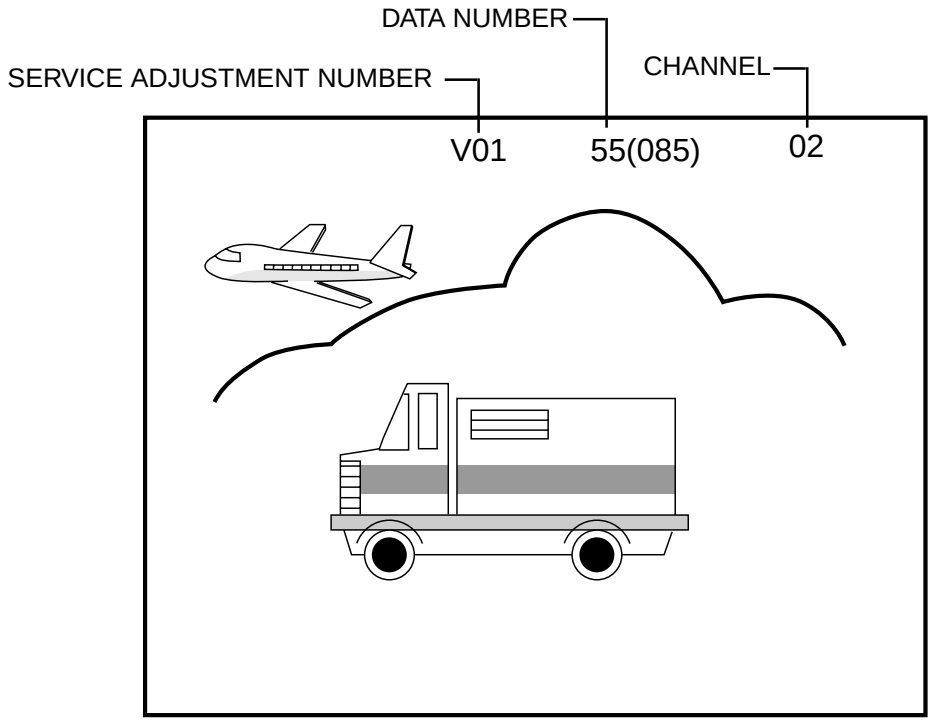


Figure A.

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		ADJUSTMENT CONTENTS
		INITIAL VALUE	RANGE	
V01	PICTURE	03	0-15(00h-0Fh)	
V02	TINT	3E	0-127(00h-7Fh)	
V03	COLOR	2D	0-127(00h-7Fh)	
V04	SUB-COLOR	10	0-31(00h-1Fh)	Must be set to "10"
V05	BRIGHT	4D	0-127(00h-7Fh)	
V06	R CUT-OFF	40	64-255(40h-FFh)	
V07	G CUT-OFF	40	64-255(40h-FFh)	
V08	B CUT-OFF	40	64-255(40h-FFh)	
V09	G DRIVE	40	0-127(00h-7Fh)	
V10	B DRIVE	40	0-127(00h-7Fh)	
V11	SHARP	14	0-63(00h-3Fh)	Must be set to "1E"
V12	N PHASE	01	0-3(00h-03h)	Must be set to "01"
V13	DC RESTORATION	00	0-3(00h-03h)	Must be set to "00"
V14	BLACK STRETCH	03	0-3(00h-03h)	Must be set to "03"
V15	ABL START POINT	03	0-3(00h-03h)	Must be set to "03"
V16	ABL GAIN	02	0-3(00h-03h)	Must be set to "02"
V17	γ POINT	00	0-3(00h-03h)	Must be set to "00"
V18	Y-MUTE/V-STOP	00	0-2	"00"= Nomal, "01"= No-Y, "02"= No-Y & No-Vertical
V19	ENERGY SAVE	28	0-63(00h-3Fh)	Must be set to "28"
V20	RTONE-G	F6	0-255(00h-FFh)	Must be set to "F6"
V21	RTONE-B	F6	0-255(00h-FFh)	Must be set to "F6"
V22	BTONE-G	00	0-255(00h-FFh)	Must be set to "00"
V23	BTONE-B	0A	0-255(00h-FFh)	Must be set to "0A"
V24	LOW-G	F7	0-255(00h-FFh)	Must be set to "F7"
V25	LOW-B	E8	0-255(00h-FFh)	Must be set to "E8"
V26	ML-G	00	0-255(00h-FFh)	Must be set to "00"
V27	ML-B	F9	0-255(00h-FFh)	Must be set to "F9"
V28	HIGH-G	03	0-255(00h-FFh)	Must be set to "03"
V29	HIGH-B	06	0-255(00h-FFh)	Must be set to "06"
V30	WPS	01	0-1	Must be set to "01"
V31	RGB CONTRAST	20	0-63(00h-3Fh)	Must be set to "2A"
V32	Y-DL	02	0-7(00h-07h)	Must be set to "02"
V33	Y-DL-INPUT	01	0-7(00h-07h)	Must be set to "01"
V34	VSM GAIN	07	0-7(00h-07h)	Must be set to "07"
V35	N COMB	01	0-1	Must be set to "01"
V36	BPF/TOF-INPUT	00	0-1	Must be set to "00"
V37	CORING	00	0-1	Must be set to "00"
V38	VSM PHASE	00	0-1	Must be set to "00"
V39	COLOR γ	00	0-1	Must be set to "00"
V40	SHARP-INPUT	14	0-63(00h-3Fh)	Must be set to "1E"
V41	TINT-INPUT	3E	0-127(00h-7Fh)	
V42	PICTURE-COMPONENT	03	0-15(00h-0Fh)	
V43	TINT-COMPONENT	10	0-31(00h-1Fh)	Must be set to "10"
V44	COLOR-COMPONENT	30	0-127(00h-7Fh)	Must be set to "35"
V45	BRIGHT-COMPONENT	4A	0-127(00h-7Fh)	
V46	R CUT OFF-COMPONENT	40	64-255(40h-FFh)	
V47	G CUT OFF-COMPONENT	40	64-255(40h-FFh)	
V48	B CUT OFF-COMPONENT	40	64-255(40h-FFh)	
V49	G DRIVE-COMPONENT	40	0-127(00h-7Fh)	
V50	B DRIVR-COMPONENT	40	0-127(00h-7Fh)	
V51	SHARP COMPONENT	14	0-63(00h-3Fh)	Must be set to "1E"
V52	N PHASE-COMPONENT	01	0-3(00h-03h)	Must be set to "01"
V53	C-TRAP	00	0-1	Must be set to "00"
R01	RF-AGC	24	0-63(00h-3Fh)	
R02	PIF VCO coil	–	–	—
R03	RF-AGC REF	5C	0-255(00h-FFh)	Must be set to "5C"
D01	V POSITION	00	0-7(00h-07h)	
D02	H POSITION	10	0-31(00h-1Fh)	
D03	V SIZE	12	0-63(00h-3Fh)	Must be set to "0B"
D04	H SIZE	1F	0-63(00h-3Fh)	
D05	V-LINEARITY	07	0-15(00h-0Fh)	
D06	V-S CORRECTION	08	0-15(00h-0Fh)	Must be set to "08"
D07	EW PARABOLA	21	0-63(00h-3Fh)	Must be set to "21"
D08	EW TRAPEZIUM	0E	0-31(00h-1Fh)	Must be set to "0E"
D09	EW CORNER	0C	0-15(00h-0Fh)	Must be set to "0C"
D10	AFC GAIN	02	0-3(00h-03h)	Must be set to "02"
D11	V EHT	07	0-7(00h-07h)	Must be set to "07"
D12	H EHT	03	0-7(00h-07h)	Must be set to "03"

Table - A

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		ADJUSTMENT CONTENTS
		INITIAL VALUE	RANGE	
EX1	FAO VOLUME	24	0-50(00h-32h)	Must be set to "24"
EX2	CC-POSITION	21	0-127(00h-7Fh)	
EX3	INT	7A	0-255(00h-FFh)	Must be set to "7A"
EX4	A-ATT	5A	0-127	
OP1	OPTION1	BA	0-255(00h-FFh)	Must be set to "B4"= (27R-S200, CSR20027, CR27S20), "B2"= (27R-S400), "B6"= (27R-S450)
OP2	OPTION2	01	0-7(00h-07h)	Must be set to "01"
M01	INPUT LEVEL	09	0-15(00h-0Fh)	Must be set to "09"
M02	MTS VCO	24	0-63(00h-3Fh)	
M03	FILTER	1F	0-63(00h-3Fh)	
M04	WIDEBAND	18	0-63(00h-3Fh)	
M05	SPECTRAL	10	0-63(00h-3Fh)	
P01	CONTRAST-PIP	32	0-127(00h-7Fh)	
P02	TINT-PIP	29	0-63(00h-3Fh)	Must be set to "29"
P03	COLOR-SAT-PIP	32	0-127(00h-7Fh)	
P04	Y-OFFSET-PIP	09	0-31(00h-1Fh)	Must be set to "09"
P05	HXA-PIP	0A	0-255(00h-FFh)	Must be set to "0A"
P06	HADJ-PIP	00	0-15(00h-0Fh)	Must be set to "00"
P07	FREE RUN-PIP	0B	0-15(00h-0Fh)	Must be set to "0B"
P08	TINT-PIP-INPUT	24	0-63(00h-3Fh)	Must be set to "24"

Table - A

Holding down both the VOL-up and CH-up buttons on the TV set at service mode for more than 2 seconds will automatically write the above initial values into IC2102.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
IC2001		X	Data is stored in IC2102.
IC201	X		The adjustment is needed to compensate for characteristics of parts including IC201 and MTS level (M01).
IC2102	X		Holding down both the VOL-up and CH-up buttons on the TV set in the service mode for more than 2 seconds will automatically write the above initial values into IC2102. Then perform a complete adjustment.
CRT	X		Adjust items related to picture tube only.
IC3001	X		Adjust items related to MTS only (M01~M05).
IC1801	X		Adjust items related to P-IN-P only (P01~P08).

Table - B

SERVICE ADJUSTMENT

VCO Adjustment

1. Connect a digital voltmeter between pin (55) of IC201 and ground.
2. Receive a good local channel.
3. Enter the service mode and select the service adjustment "R02".
4. Adjust T201 so that digital voltmeter reads 2.5±1.0VDC.
5. Adjustment is completed, remove the voltmeter, return to "normal" mode.

RF AGC Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "R01".
3. Set the data value to point where no noise or beat appears.
4. Select another channel to confirm that no noise or beat appears.
   Note 1 : You will have to come out of the service mode to select another channel.
   Note 2 : Setting the data to "00" will produce a black raster.

Screen Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "V03" and set the data value to "00" to set the color level to minimum. (Record original data code under adjustment "V03" before changing) You may skip this step, if you selected a B/W picture or monoscope pattern.
3. Select the service adjustment "V18" and adjust the data value to "01", this turn off the luminance signal (Y-mute).
4. Adjust the master screen control until the raster darkens to the point where raster is barely seen.
5. Adjust the service adjustments "V06" red, "V07" green and "V08" blue to obtain a good grey scale with normal whites at low brightness level.
6. Select the service adjustment "V18" and reset data to "00". Select the service adjustment "V03" and reset data to obtain normal color level.
7. For component input, the data value of "V46" red, "V47" green and "V48" blue is adjusted to follow the data value of "V06", "V07" and "V08" respectively.
8. Reset the master screen control to obtain normal brightness range.

White Balance Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "V03" and set to "00" (minimum color)(Record original data code under adjustment "V03" before changing). "V03" does not have to be adjusted, if you selected a B/W picture or monoscope pattern.
3. Alternately adjust the service adjustment data of "V09" and "V10" until a good grey scale with normal whites is obtained. (RF Input)
4. For component input, the data value of "V49" and "V50" is adjusted to follow the data value of "V09" and "V10" respectively.
5. Select the service adjustment "V03" and reset data to obtain normal color level.

Picture Adjustment

1. Receive a good local channel.
2. Make sure the customer picture control is set to maximum.
3. Enter the service mode and select the service adjustment "V01".
4. Adjust the data value to achieve normal contrast range.

Tint Adjustment

1. Receive a good local channel.
2. Set customer tint control to center of it's range.
3. Enter the service mode and select the service adjustment "V02".
4. Adjust "V02" data value to obtain normal flesh tones.
5. Input same data to "V41".

Sub-Color Adjustment

1. Receive a good local channel.
2. Make sure the customer color control is set to center position .
3. Enter the service mode and select service adjustment "V04".
4. Adjust "V04" data value to obtain normal color level.

Brightness Adjustment

1. Receive a good local channel.
2. Make sure the customer brightness control is set to center position.
3. Enter the service mode and select the service adjustment "V05".
4. Adjust "V05" data value to obtain normal brightness level.

Vertical-Size and Linearity Adjustments

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "D03" for V-size.
3. Adjust the "D03" bus data to get the proper V-size.
4. For V-linearity adjustment, select data bus "D05" and adjust to get the proper vertical linearity.
   Note: Aging for 10 min before adjustment. After the adjustment of V-center and V-size, re-adjustment for this V-line.

Vertical Phase Adjustment

1. Enter the service mode and select the service adjustment "D01".
2. Adjust "D01" data value so that picture is centered.

Horizontal Position Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "D02".
3. Adjust "D02" data value so that picture is centered.

Caption Position Adjustment (Horizontal)

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "EX2".
3. A black text box appears on the screen. (see ***Figure B.*** below)
4. Adjust "EX2" data value so that text box is positioned in the center of the screen.

Other Adjustments

1. Enter the service mode.
2. Adjust the following data values as listed below.

SERVICE POSITION	ADJUST ITEM	DATA(Hex)		
		27R-S200, CSR20027, CR27S20	27R-S400	27R-S450
OP1	OPTION1	B4	B2	B6
OP2	OPTION2	01	01	01

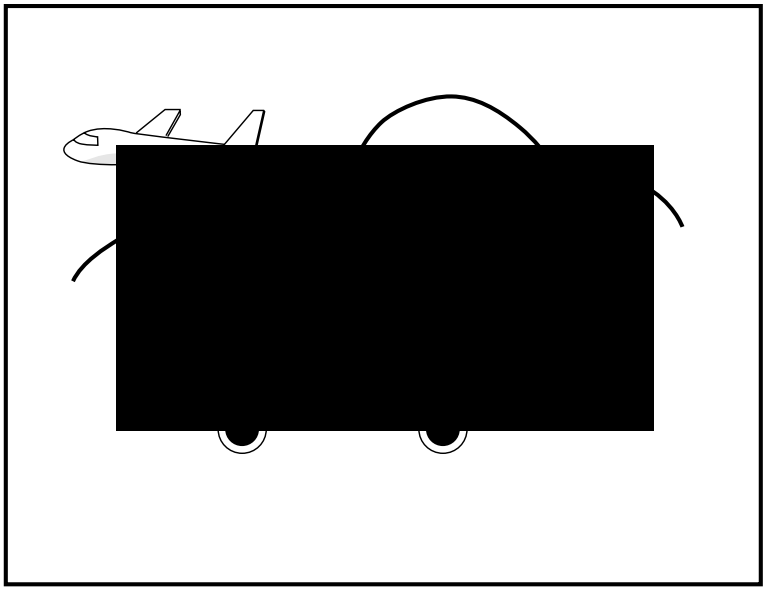


Figure B.

■ MTS ADJUSTMENT

MTS Level Adjustment

1. Receive the following composite signal.
   Monaural signal: 400Hz, 100% modulation
2. Connect the rms voltmeter to pin (39) of IC3001.
3. Enter the service mode and select the service adjustment "M01" and set to "09".
4. Enter the service mode and select the service adjustment "EX4".
5. Adjust the data so that the rms voltmeter reads 490 ±10 mVrms.

MTS VCO Adjustment

1. Keep the unit in no-signal state.
2. Connect the frequency counter to pin (39) of IC3001.
3. Connect a capacitor (100µF, 50V) in between positive(+) side of C3005 and ground.
4. Enter the service mode and select the service adjustment "M02"
5. Adjust the data so that the frequency counter reads 62.94 ±0.75kHz.

Filter Adjustment

1. Feed the following stereo pilot signal to pin (14) of IC3001 .
   Stereo pilot signal: 9.4kHz, 600mVrms.
2. Enter the service mode and select the service adjustment "M03".
3. Adjust the data until "OK" appears in position on the screen. Make sure the "OK" is displayed almost at the center of the data range.

Separation Adjustment

1. Connect the rms voltmeter to pin (39) of IC3001.
2. Receive the following composite stereo signal 1.
   Composite stereo signal: 30% modulation, left channel only, noise reduction on, 300Hz
3. Enter the service mode and select the service adjustment "M04".
4. Adjust the data until the AC voltage reading of the RMS voltmeter is minimum.
5. Receive the following composite stereo signal 2.
   Stereo signal: 30% modulation, left channel only, noise reduction on, 3kHz
6. Enter the service mode and select the service adjustment "M05".
7. Adjust the data until the AC voltage reading of the rms voltmeter is minimum.
8. Take the above steps 1 thru 7 again for fine adjustment.

■ P-IN-P ADJUSTMENT

(Only for 27R-S400, 27R-S450)

P-IN-P Y-LEVEL Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "P01".
3. Adjust "P01" data value to obtain normal contrast level.

P-IN-P TINT Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "P02".
3. Adjust data value to "29".

P-IN-P COLOR Adjustment

1. Receive a good local channel.
2. Make sure the customer color control is set to center position.
3. Enter the service mode and select the service adjustment "P03".
4. Adjust "P03" data value to obtain normal color level.

P-IN-P Y-OFF SET Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "P04".
3. Adjust data value to "09".

P-IN-P H-POSITION Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "P05".
3. Adjust data value to "0A".

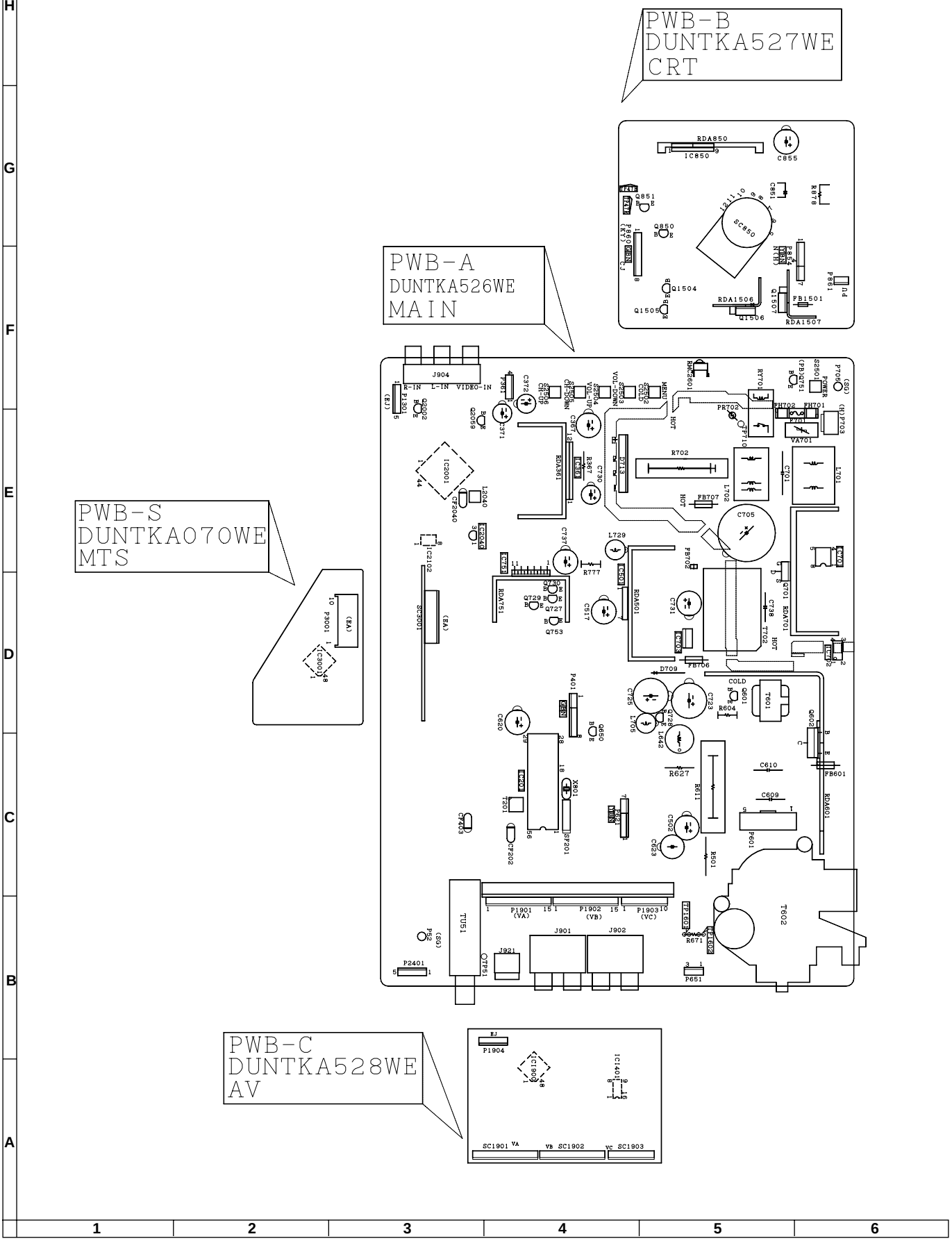
P-IN-P BURST GATE PULSE (for MAIN)

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "P06".
3. Adjust data value to "00".

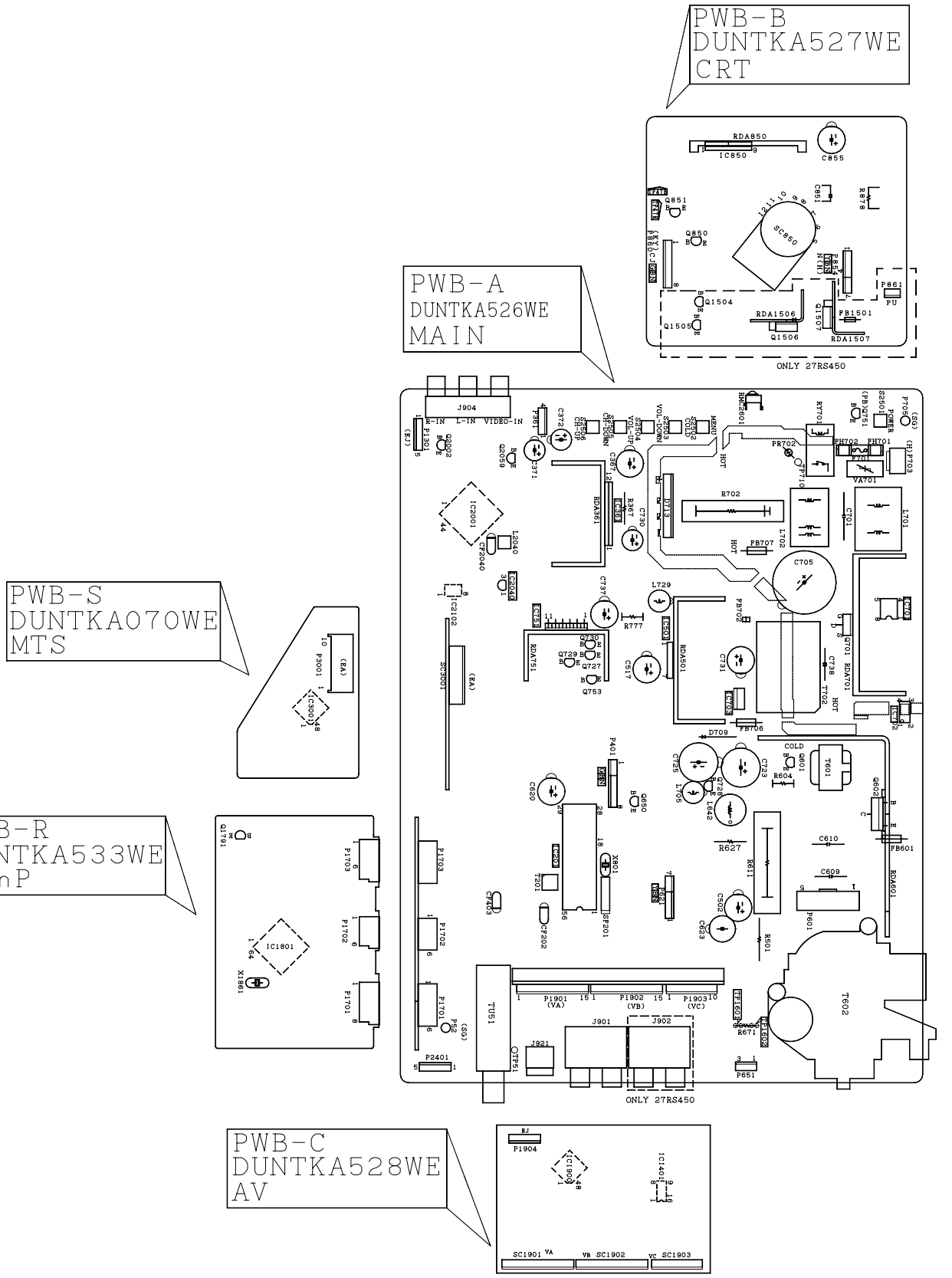
P-IN-P FREERUN

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "P07".
3. Adjust data value to "0B".

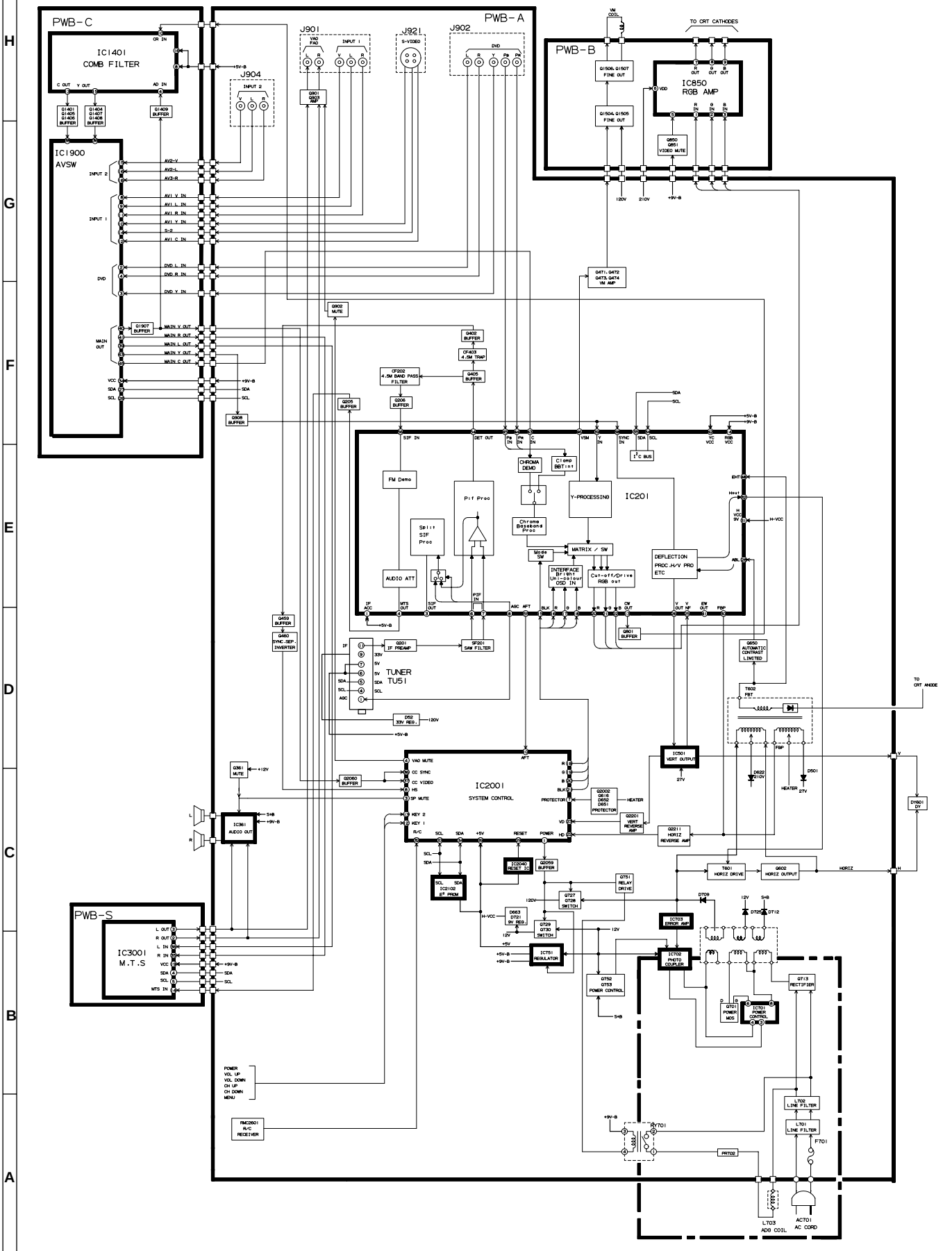
MODELS 27R-S200, CSR20027, CR27S20 CHASSIS LAYOUT



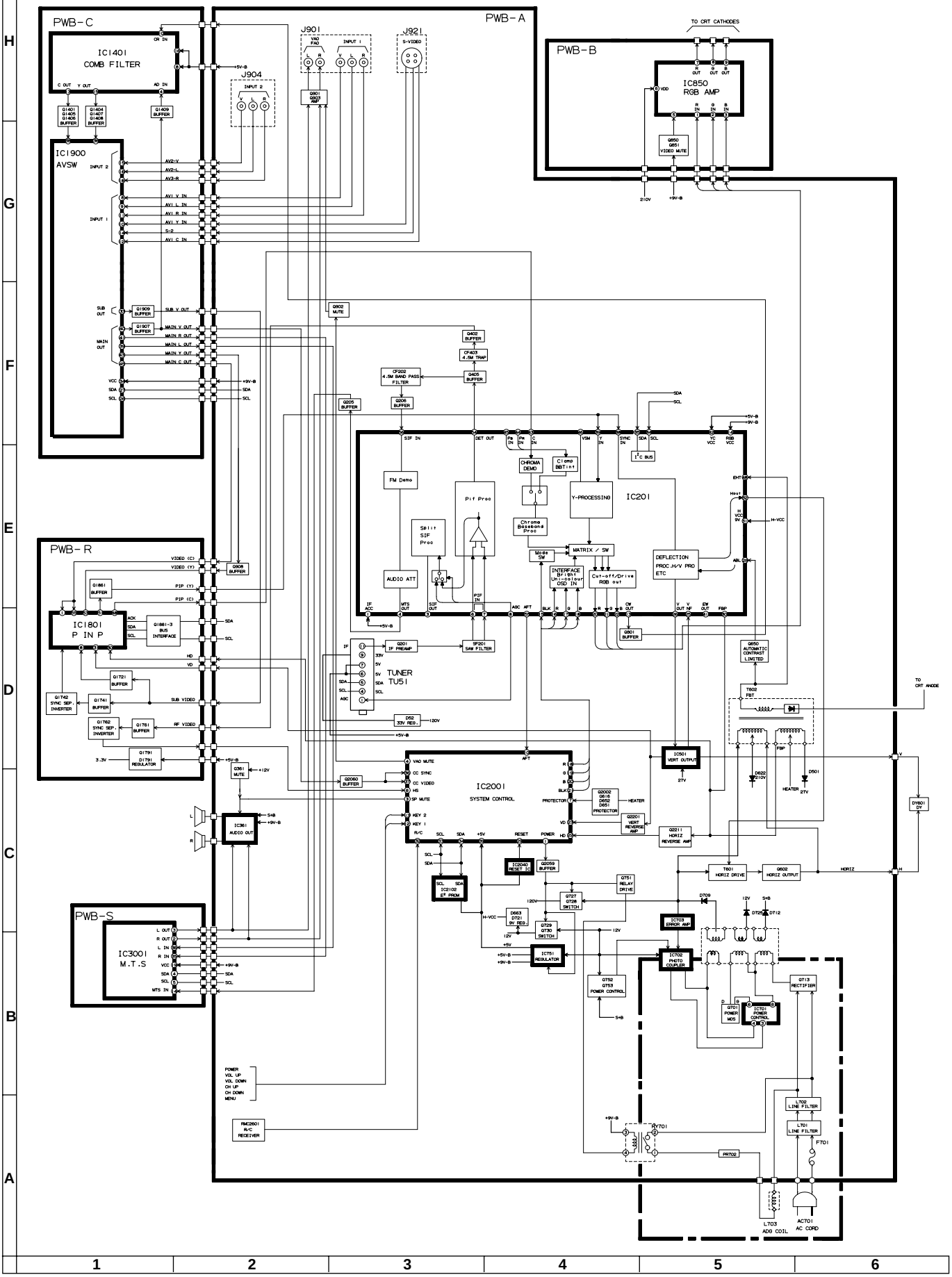
MODELS 27R-S400, 27R-S450 CHASSIS LAYOUT



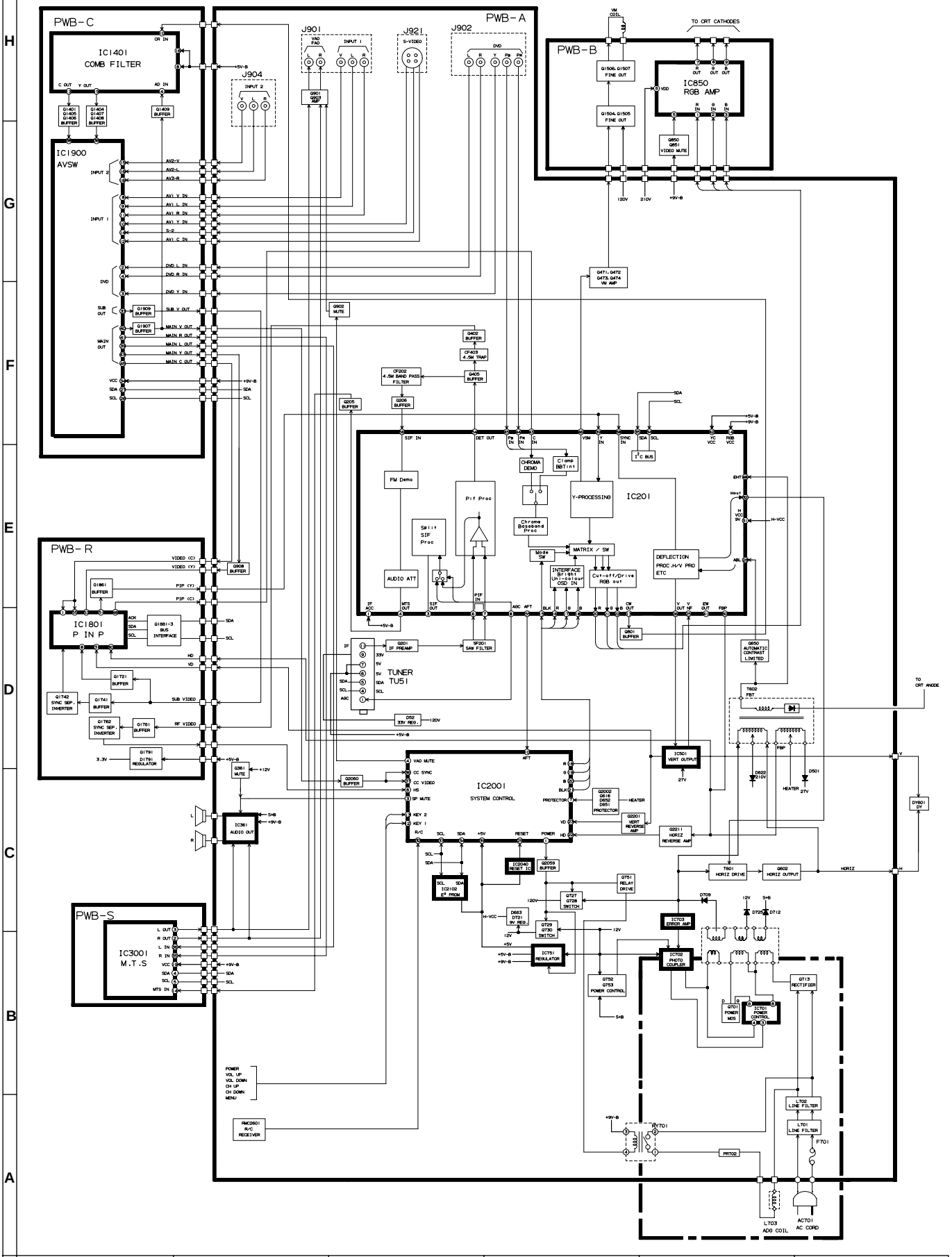
MODELS 27R-S200, CSR20027, CR27S20 BLOCK DIAGRAM



MODEL 27R-S400 BLOCK DIAGRAM



MODEL 27R-S450 BLOCK DIAGRAM



DESCRIPTION OF SCHEMATIC DIAGRAM

NOTES:

1. *The unit of resistance "ohm" is omitted. (K=kΩ=1000Ω, M=MΩ)*
2. *All resistors are 1/8 watt, unless otherwise noted.*
3. *All capacitors are μ F, unless otherwise noted. (P=pF=μμF)*
4. *(G) indicates ±2% tolerance may be used.*
5. *⏚ indicates line isolated ground.*

VOLTAGE MEASUREMENT CONDITIONS:

1. *All DC voltages are measured with DVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.*
2. *All voltages measured with 1000μ V B & W or Color signal.*

WAVEFORM MEASUREMENT CONDITIONS:

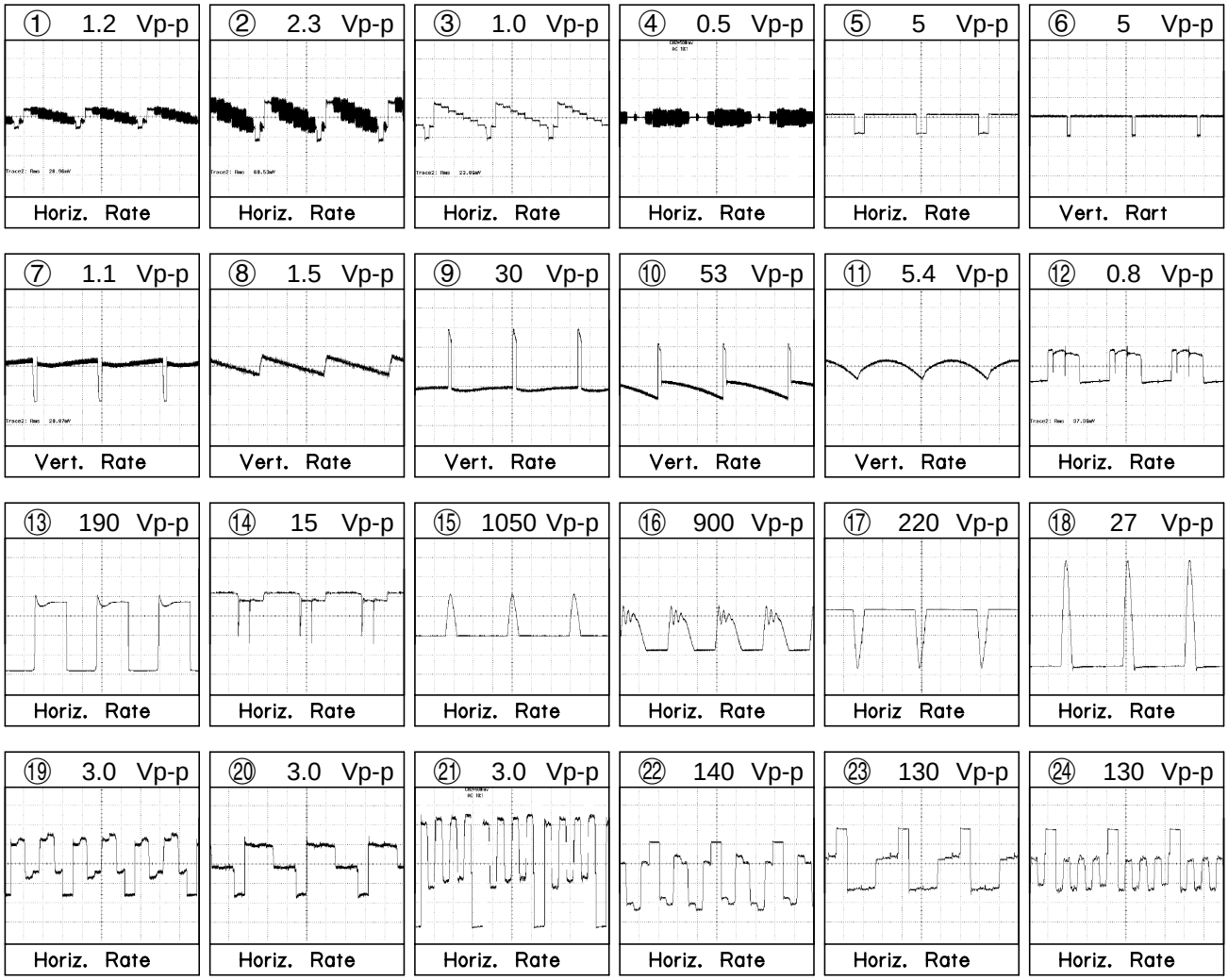
1. *Photographs taken on a standard gated color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.*
2. *indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)*

⚠ AND SHADED ( ) COMPONENTS = SAFETY RELATED PARTS.
▲MARK= X-RAY RELATED PARTS.

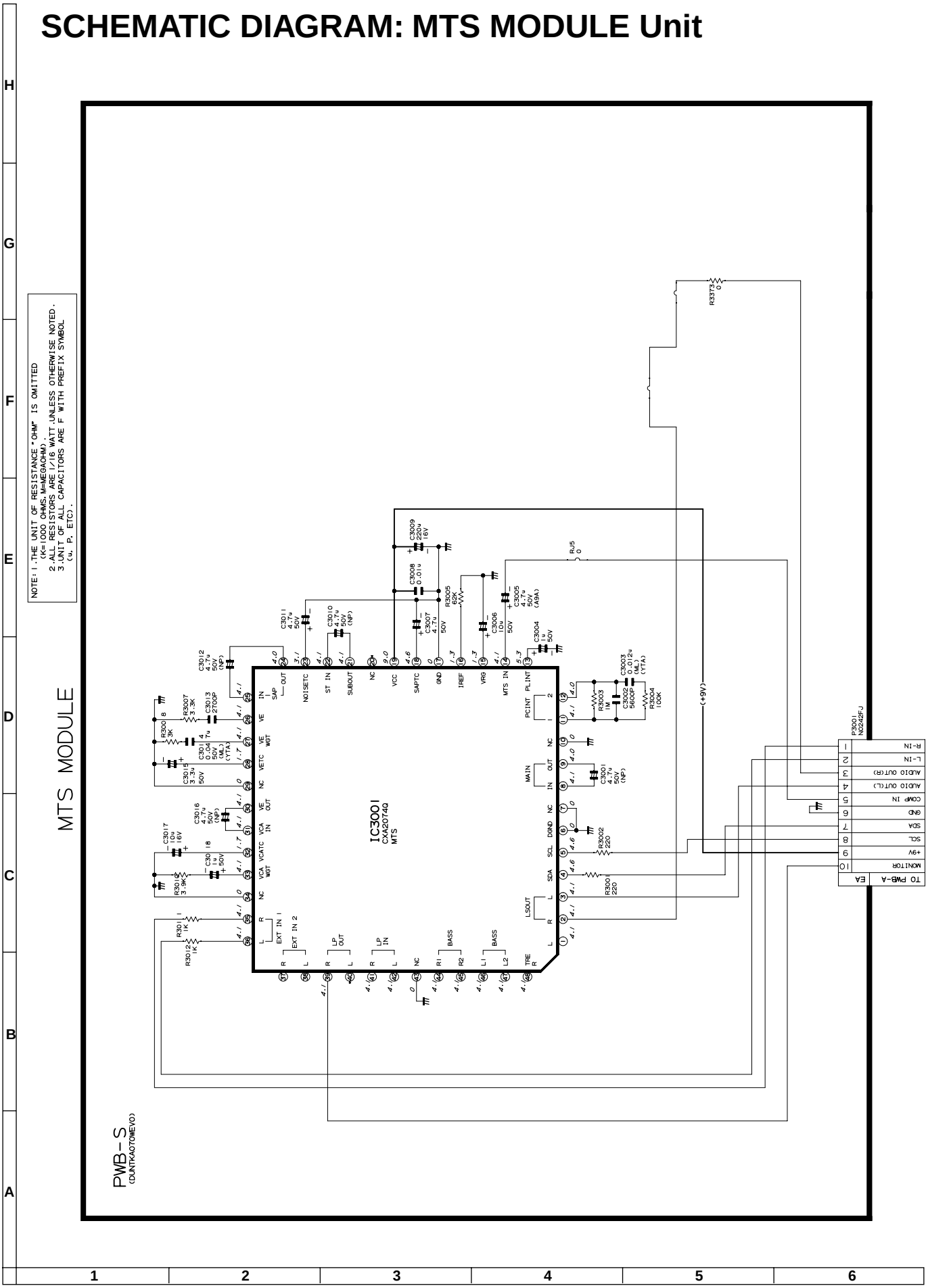
DRGANNES MARQUES ⚠ ET HACHRES ( ): PIECES RELATIVES A LA SECURITE.
MARQUE ▲ : PIECS RELATIVE AUX RAYONS X.

This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

WAVEFORMS



SCHEMATIC DIAGRAM: MTS MODULE Unit



MODELS 27R-S200, CSR20027, CR27S20 SCHEMATIC DIAGRAM: MAIN-1 Unit

MAIN1

NOTE:1.THE UNIT OF RESISTANCE "OHM" IS OMITTED
(K=1000 OHMS, M=MEGAOHM).
2.ALL RESISTORS ARE 1/16 WATT UNLESS OTHERWISE NOTED.
3.UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL
(n, P, ETC).

PWB-A (1/2)
(QPWBFA5266UN1)
(DUNTKA5266WE0)...27R-S200, CR27S20
(DUNTKA5266WE04)...CSR20027

IC2001
1X3515CE
SYSTEM CONTROL

IC2102
BR2416E2
EEP ROM

IC2040
K1A7045A
K1A7045P

IC701
TEA1507
SWITCHING CONTROL

IC702
FX0008QE
PHOTO COUPLER

IC703
SE120N
SE120N
ERROR AMP

IC751
STV8164+

IC501
TA8427K
VERT. OUT

Q2201
C1623L,6
D601AR
H-REVERSE AMP

Q2211
C1623L,6
D601AR
V-REVERSE AMP

Q2002
A1266+Y

Q2059
C3198-0

Q2060
C1623L,6
D601AR
BUFFER

Q701
STEN60FP

Q702
A1091-O

Q703
C3333

Q751
C3198-0
RELAY DRIVER

Q752
C1623L,6
D601AR

Q753
C3198-0

Q601
C2482
HORIZ DRIVER

Q602
D2539
D2634++
HORIZ OUT

Q650
A1266-Y
ACL/ABL

Q729
A1266-Y

Q730
C3198-0

Q727
C3333

Q728
A1091-O

Q616
C1623L L6
D601A R

TO MAIN 2

(THIS AREA IS)
(COLD SIDE.)

(THIS AREA IS)
(HOT SIDE.)

LINE CORD PLUG
IS POLARIZED.
THE NARROW BLADE
CONNECTS TO THE
HOT SIDE OF
THE AC LINE.

AC CORD
AC120V 60Hz
AC(TO)
GACCD3065CE3A

ADJ COIL
L703
C1L60039ME
C1L90120BJ

T602
F0039ME
HORIZ OUT

ANODE
FOCUS
SCREEN

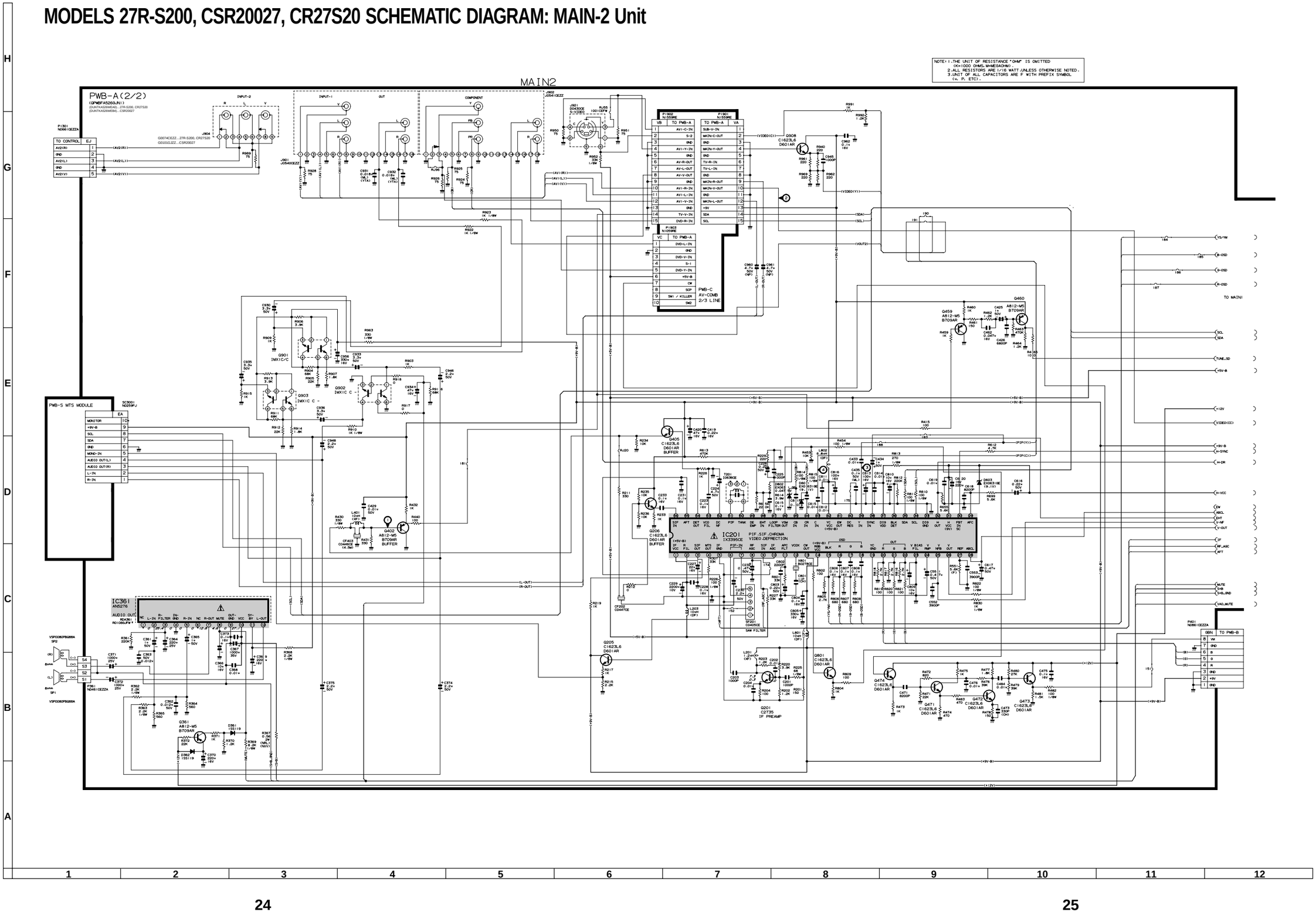
COMBINATION	T602	C610	R622	R621	C609
	F0039ME	PVC3CA742H	VRN-RL2HCR56J+ RS-3VOHCR56J	VRN-RL3AE3R3J+ VRN-1V2AE3R3J	PVC3CA772H

COMBINATION	C644	L642
COMB1	VCFPVC2DB514J	RCL2D102MCZZ
NM110N	VCFPVC2DB474J	RCL2D101MCZZ

YBN	TO PWB-B
1	210V
2	N.C.
3	GND
4	HEATER
5	HEATER GND
6	NC
7	+120V

	1	2	3	4	5	6	7	8	9	10	11	12

MODELS 27R-S200, CSR20027, CR27S20 SCHEMATIC DIAGRAM: MAIN-2 Unit



MODEL 27R-S400 SCHEMATIC DIAGRAM: MAIN-1 Unit

MAIN1

NOTE: 1.THE UNIT OF RESISTANCE "OHM" IS OMITTED (K=1000 OHMS, M=MEGAOHM).
2.ALL RESISTORS ARE 1/16 WATT UNLESS OTHERWISE NOTED.
3.UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL (u, P, ETC).

PWB-A (1/2)
(QPWBFA5265JN1)
(QUNTKA526MEA1)

IC2001 IX3515CE SYSTEM CONTROL

IC2102 BR24L16E2 EEP ROM

IC2040 K1A7045A K1A7045P

IC501 TA8427K VERT. OUT

IC751 STV8164+

IC701 TEA1507 SWITCHING CONTROL

IC702 FX0D08SE PHOTO COUPLER

IC703 SE120N ERROR AMP

Q2201 C1623L6 D601AR H-REVERSE AMP

Q2202 C1623L6 D601AR V-REVERSE AMP

Q2002 A1266-Y

Q2062 C1623L6 D601AR BUFFER

Q2059 C3198-G

Q729 A1266-Y

Q730 C3198-G

Q751 C3198-G RELAY DRIVER

Q701 STGNE90FP

Q753 C3198-G

Q752 C1623L6 D601AR

Q728 A1091-O

Q727 C3333

Q616 C1623L6 D601AR

Q650 A1266-Y ACL/ABL

Q602 D2539 D2634++ HORIZ OUT

Q601 C2482 HORIZ DRIVER

TUNER TU51 VTS1TU4TA0 ENV56D4103

TO MAIN 2

TO PWB-B

YBN	TO PWB-B
1	210V
2	N.C.
3	GND
4	HEATER
5	HEATER GND
6	NC
7	+120V

	T602	C610	R622	R621	C609
COMBINATION	FX0E3ME	PVC3CA742H	VRN-RL2HCR56J-H VRN-SV2HCR56J	VRN-RL3AB3R3J-H VRN-WV3AB3R3J	PVC3CA772H

LINE CORD PLUG IS POLARIZED. THE NARROW BLADE CONNECTS TO THE HOT SIDE OF THE AC LINE.

AC CORD AC120V 60Hz ACCTO1 QACCX0655CEA

ADD COIL L703 CLL3003M0 CLL901200J

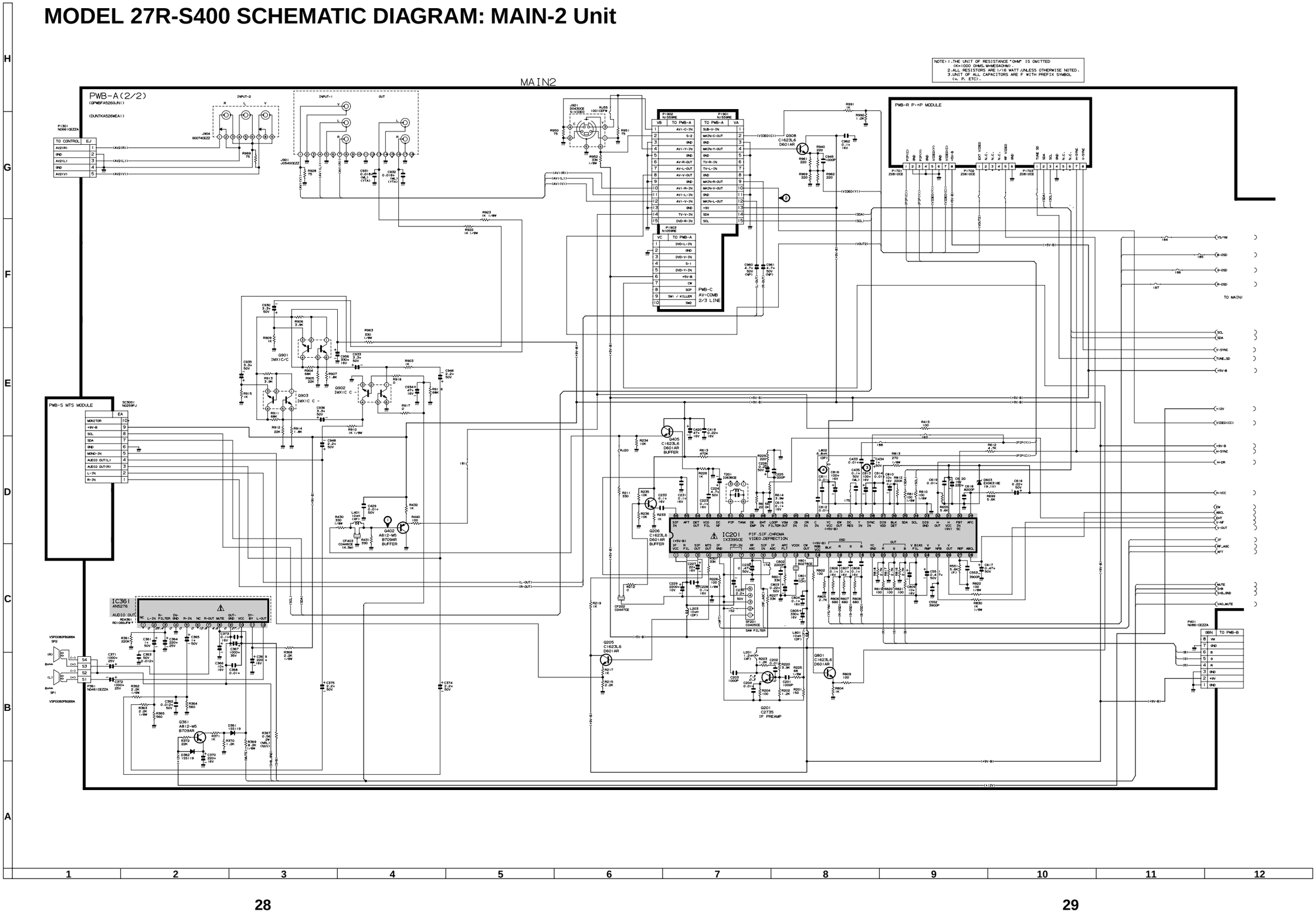
COM'L	VCPFVC2B614J	RC1L201103MEZZ
NATION	VCPFVC2B674J	RC1L201103MEZZ

(THIS AREA IS COLD SIDE.)

(THIS AREA IS HOT SIDE.)

1	2	3	4	5	6	7	8	9	10	11	12

MODEL 27R-S400 SCHEMATIC DIAGRAM: MAIN-2 Unit


MAIN2
PWB-A(2/2)
NOTE:1.THE UNIT OF RESISTANCE "OHM" IS OMITTED (K=1000 OHMS, M=MEGAOHM).
2.ALL RESISTORS ARE 1/16 WATT,UNLESS OTHERWISE NOTED.
3.UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL (u, P, ETC).
PWB-R PinP MODULE
PWB-S MTS MODULE
PWB-C AV-COMB 2/3 LINE
IC201 TX3395CE PIF.SIF.CHROMA VIDEO.DEFRECTION
IC361 AN5276 AUDIO OUT
SAW FILTER
IF PREAMP
TO MAIN1

MODEL 27R-S450 SCHEMATIC DIAGRAM: MAIN-1 Unit

MAIN1

NOTE: 1.THE UNIT OF RESISTANCE "OHM" IS OMITTED
(K=1000 OHMS, M=MEGAOHM).
2.ALL RESISTORS ARE 1/16 WATT UNLESS OTHERWISE NOTED.
3.UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL
(m, P, ETC).

PWB-A (1/2)
(GFMBFA526GJN1)
(DUNTKA526WEA2)

IC2001
1X351SCE
SYSTEM CONTROL

IC2102
BR2416E2
EEP ROM

IC2040
K1A7045A
K1A7045P

IC751
STV8164

IC1501
TA8427K
VERT. OUT

IC701
TEA1507
SWITCHING CONTROL

IC702
FX0D08SE
PHOTO COUPLER

IC703
SE120N
ERROR AMP

TO MAIN 2

TO MAIN 2

YBN	TO PWB-B
1	210V
2	N.C.
3	GND
4	HEATER
5	HEATER GND
6	NC
7	+120V

	T602	C610	R623	R621	C609
COMBINATION	F0033ME	PVC3CA742H	VRN-RL2HCR56J-H VRN-SV2HCR56J	VRN-RL3AB3R3J-H VRN-W3AB3R3J	PVC3CA772H

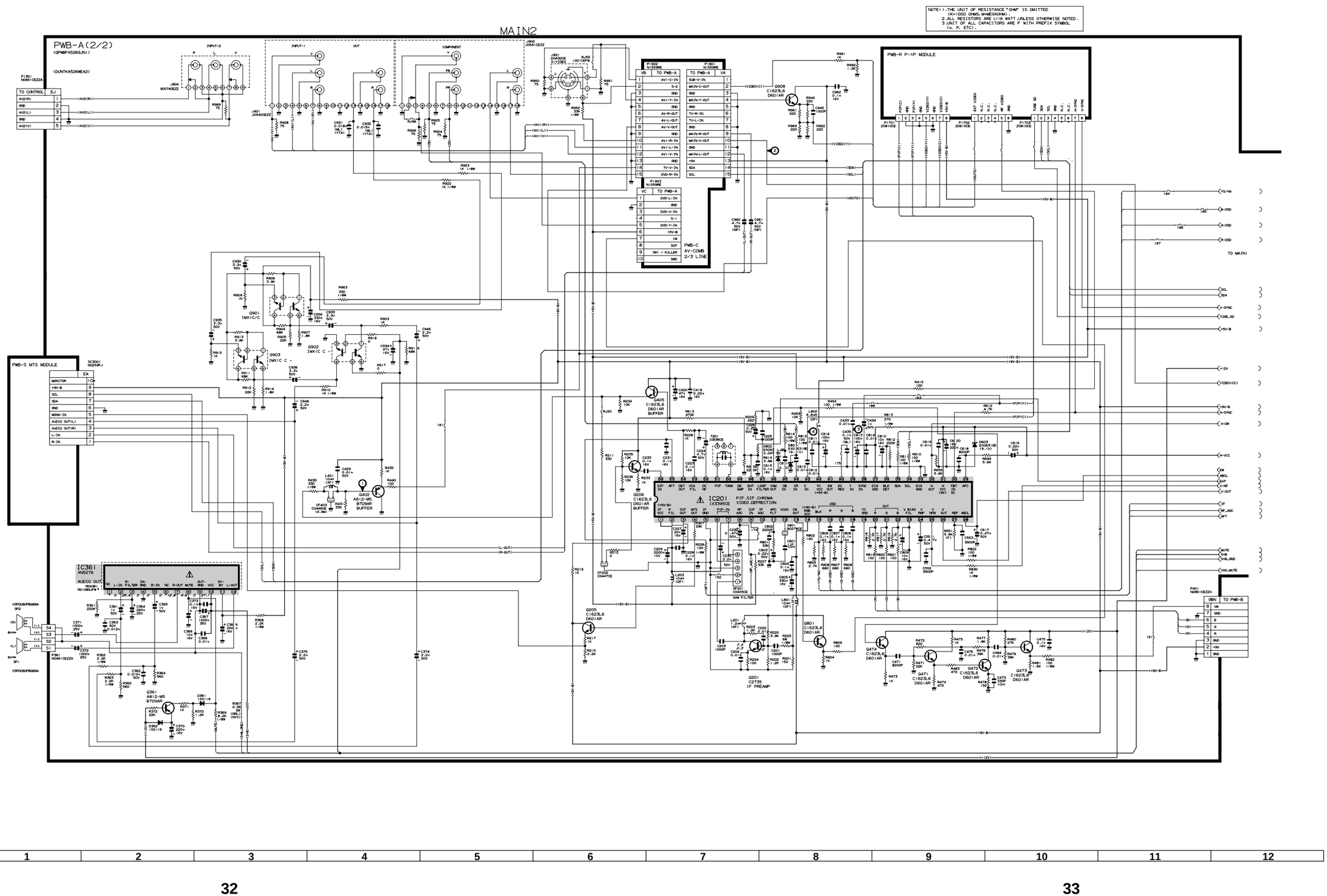
	C644	L642
COMBINATION	VCPPVC0D5414J VCPPVC0D5447J	RC1L201GMEZZ RC1L201GMEZZ

30

31

1	2	3	4	5	6	7	8	9	10	11	12

MODEL 27R-S450 SCHEMATIC DIAGRAM: MAIN-2 Unit



SCHEMATIC DIAGRAM: AV Unit

NOTE: 1.THE UNIT OF RESISTANCE "OHM" IS OMITTED (K=1000 OHMS, M=MEGAOHM).
2.ALL RESISTORS ARE 1/16 WATT.UNLESS OTHERWISE NOTED.
3.UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL (u, P, ETC).

AV-COMB (2 LINE)

PWB-C
(QPWBFA528GJZZ)
(DUNTKA528WEA6)

P1904
N0541CE

TO PWB-A	EJ
AV2(R)	1
GND	2
AV2(L)	3
GND	4
AV2(V)	5

IC1900
CXA2089Q

S-2	
H	CVBS
L	S-VIDEO

S-3	
H	AV2
L	NON AV2

S-1	
H	DVD
L	AV3

IC1401
TC90A45F
COMB.FILTER

SC1901 N1598RE

TO PWB-A	VA
SUB-Y-IN	1
MAIN-C-OUT	2
GND	3
MAIN-Y-OUT	4
GND	5
TV-R-IN	6
TV-L-IN	7
GND	8
MAIN-R-OUT	9
MAIN-V-OUT	10
GND	11
MAIN-L-OUT	12
+9V	13
SDA	14
SCL	15

SC1902 N1598RE

TO PWB-A	VB
AV1-C-IN	1
S-2	2
GND	3
AV1-Y-IN	4
GND	5
AV-R-OUT	6
AV-L-OUT	7
AV-V-OUT	8
GND	9
AV1-R-IN	10
AV1-L-IN	11
AV1-V-IN	12
GND	13
TV-V-IN	14
DVD-R-IN	15

SC1903 N1098RE

TO PWB-A	VC
DVD-L-IN	1
GND	2
DVD-V-IN	3
S-I	4
DVD-Y-IN	5
+5V	6
CW	7
SCP	8
SW1 / KILLER	9
SW2	10

SLD1901
PSLDM0102GJFW

MODELS 27R-S400, 27R-S450 SCHEMATIC DIAGRAM: P-IN-P Unit

NOTE: 1.THE UNIT OF RESISTANCE "OHM" IS OMITTED (K=1000 OHMS, M=MEGAOHM).
2.ALL RESISTORS ARE 1/16 WATT.UNLESS OTHERWISE NOTED.
3.UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL (u, P, ETC).

NOTE: ALL DIODES ARE "1SS119 / DX0475CE" UNLESS OTHERWISE SPECIFIED.
: ALL TRANSISTORS ARE "2SC2412 / 2SC2462" OR "2SD601AR" UNLESS OTHERWISE SPECIFIED.

P I N P

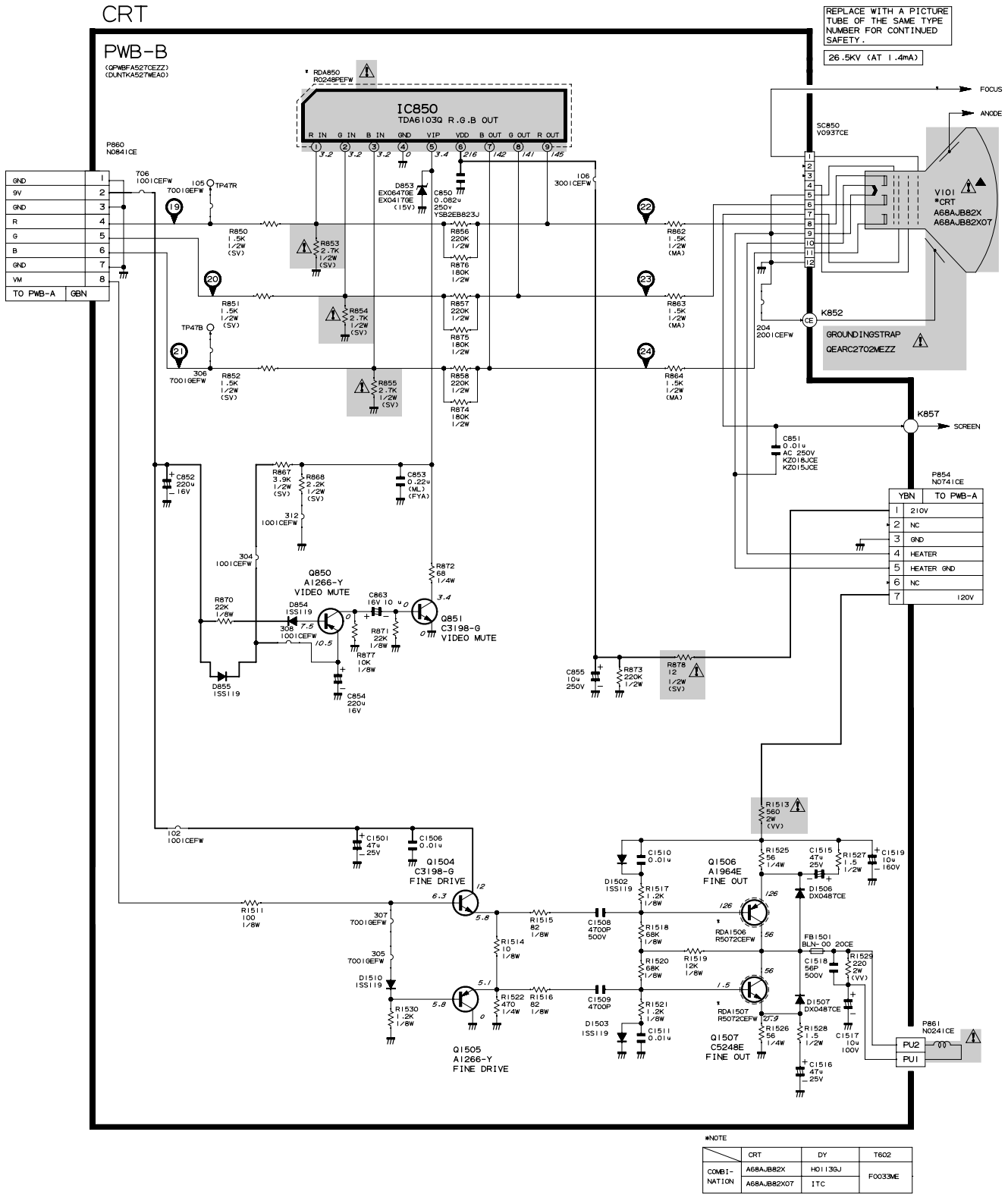
PWB-R
(QPWBFA533GJZZ)
(DUNTKA533WEAO)

IC1801
M65667FP
PIP

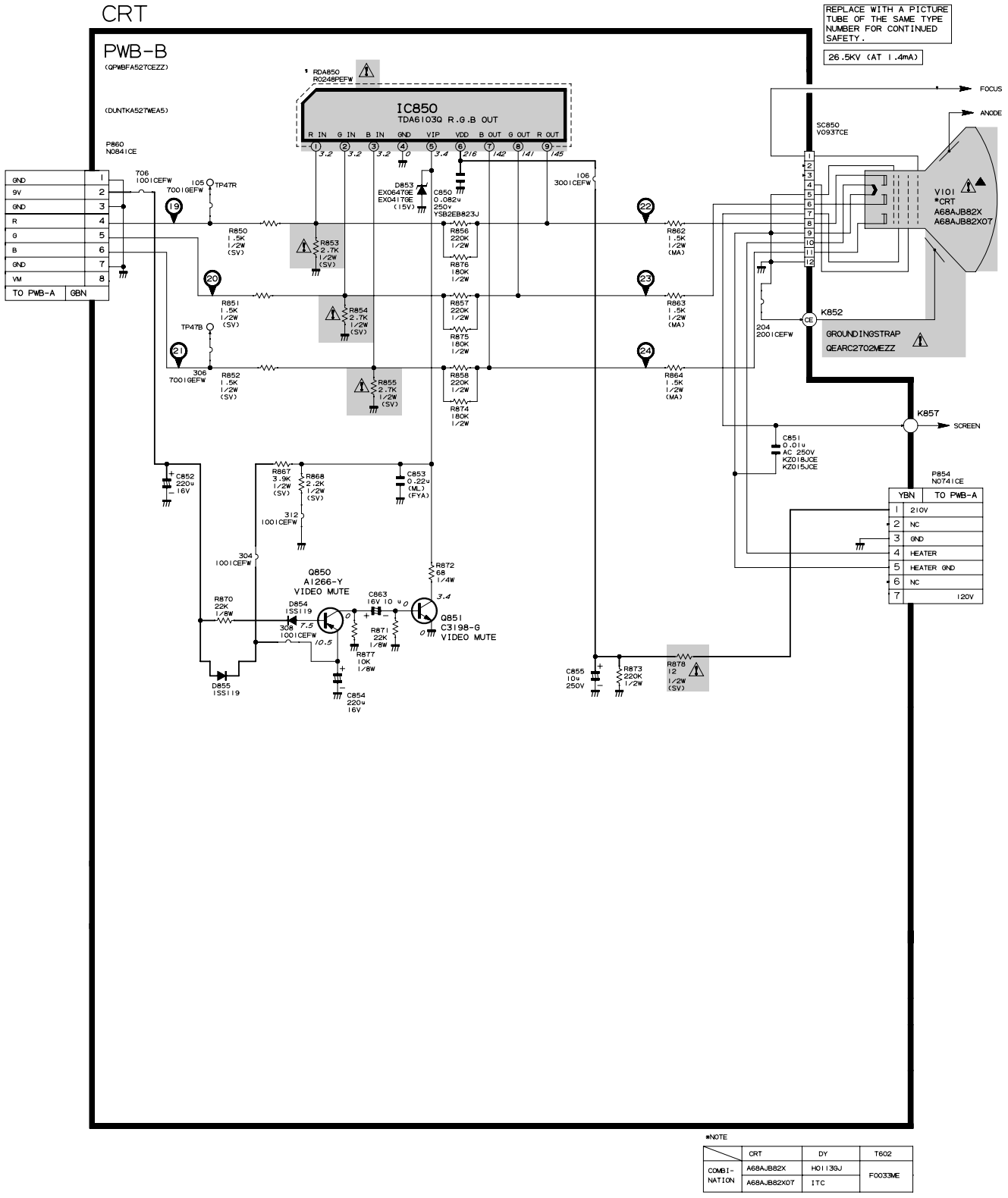
Q1861 A812-M5 A1037KR BUFFER
Q1721 C1623L6 BUFFER
Q1741 A812-M5 A1037KR BUFFER
Q1742 A812-M5 A1037KR INVERTER
Q1761 A812-M5 A1037KR BUFFER
Q1762 B709AR A1037KR INVERTER
Q1791 C1959Y REGULATOR
Q1881 C1623L6 BUS INTERFACE
Q1882 C1623L6 BUS INTERFACE
Q1883 C1623L6 BUS INTERFACE

P1701 Z06103CE TO PWB-A: P1P(C), GND, P1P(Y), GND, VIDEO(Y), GND, VIDEO(C), +5V-2
P1702 Z06103CE TO PWB-A: EXT.1 VIDEO, SUB EXT.1/2, EXT.2 VIDEO, SUB TV/EXT., RF VIDEO, GND
P1703 Z06103CE TO PWB-A: TUNE SD, SDA, SCL, GND, VIDEO(Y), HD, VD

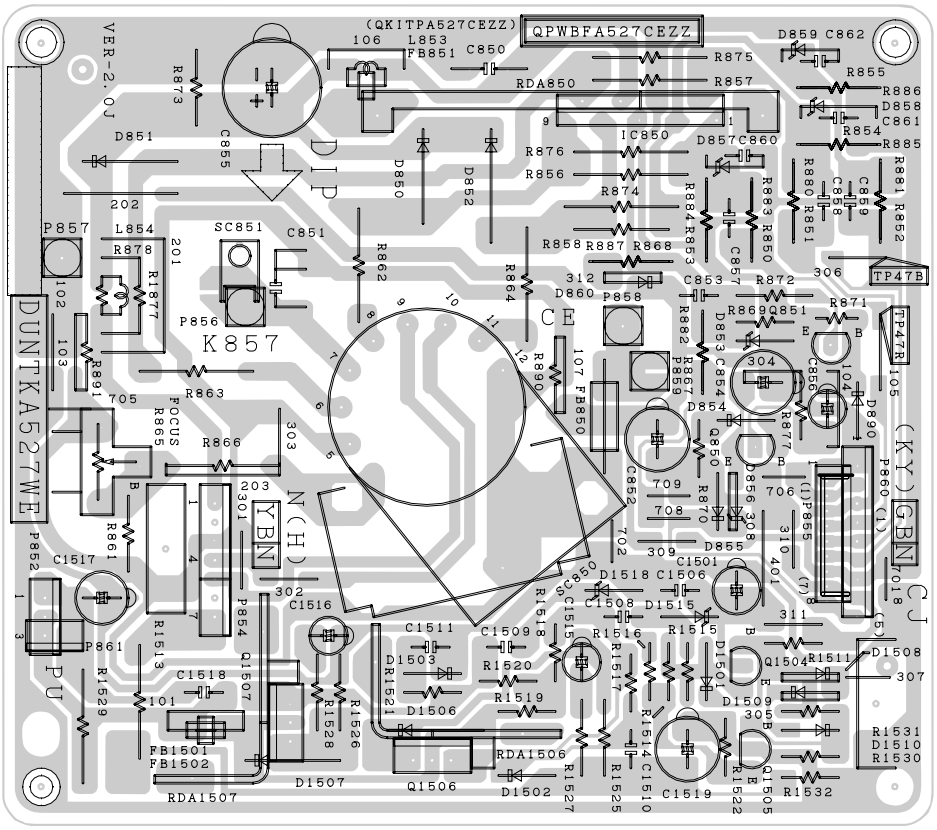
MODELS 27R-S200, 27R-S450, CSR20027, CR27S20
SCHEMATIC DIAGRAM: CRT Unit



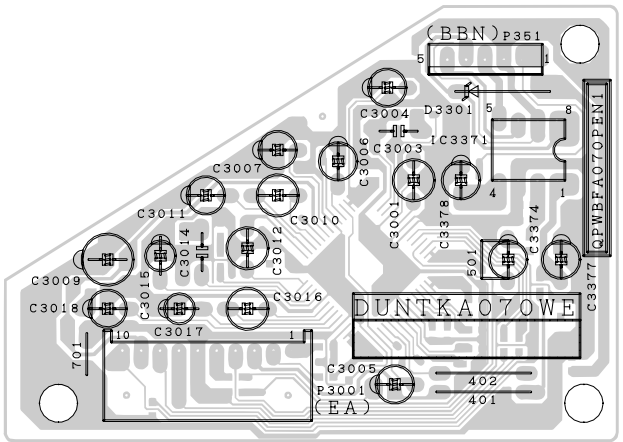
MODEL 27R-S400 SCHEMATIC DIAGRAM: CRT Unit



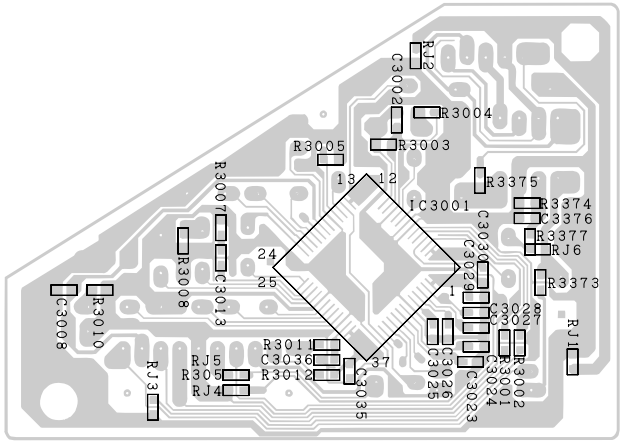
PRINTED WIRING BOARD ASSEMBLIES



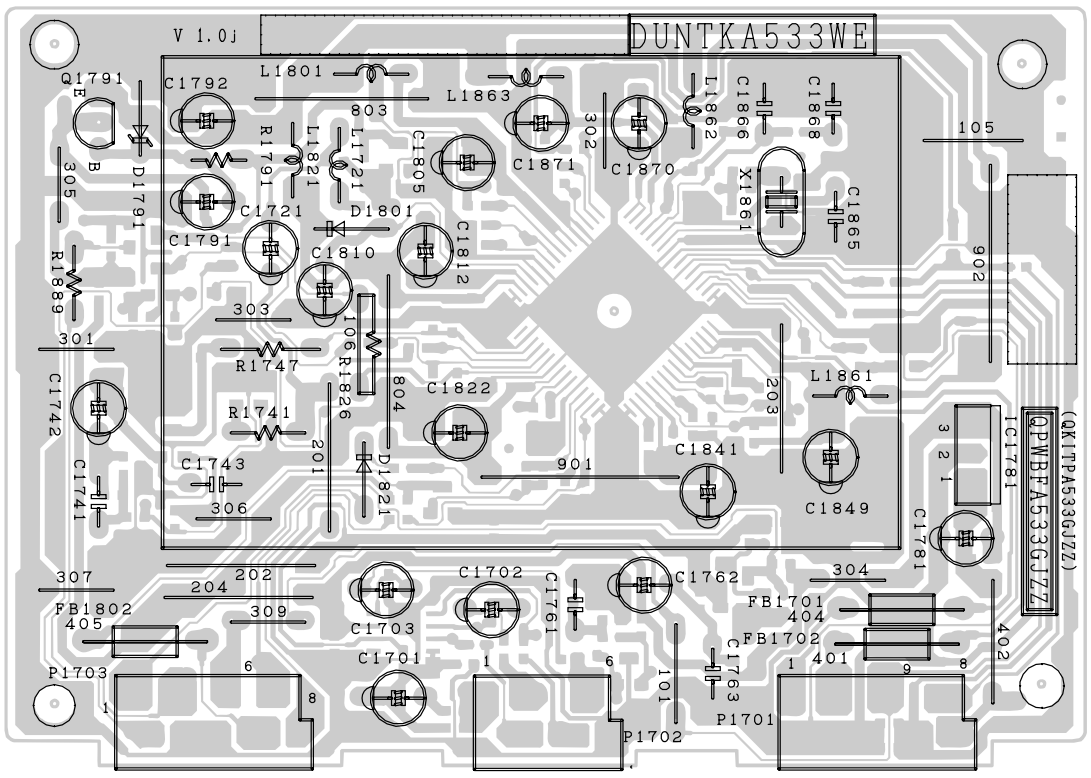
PWB-B: CRT Unit (Wiring Side)



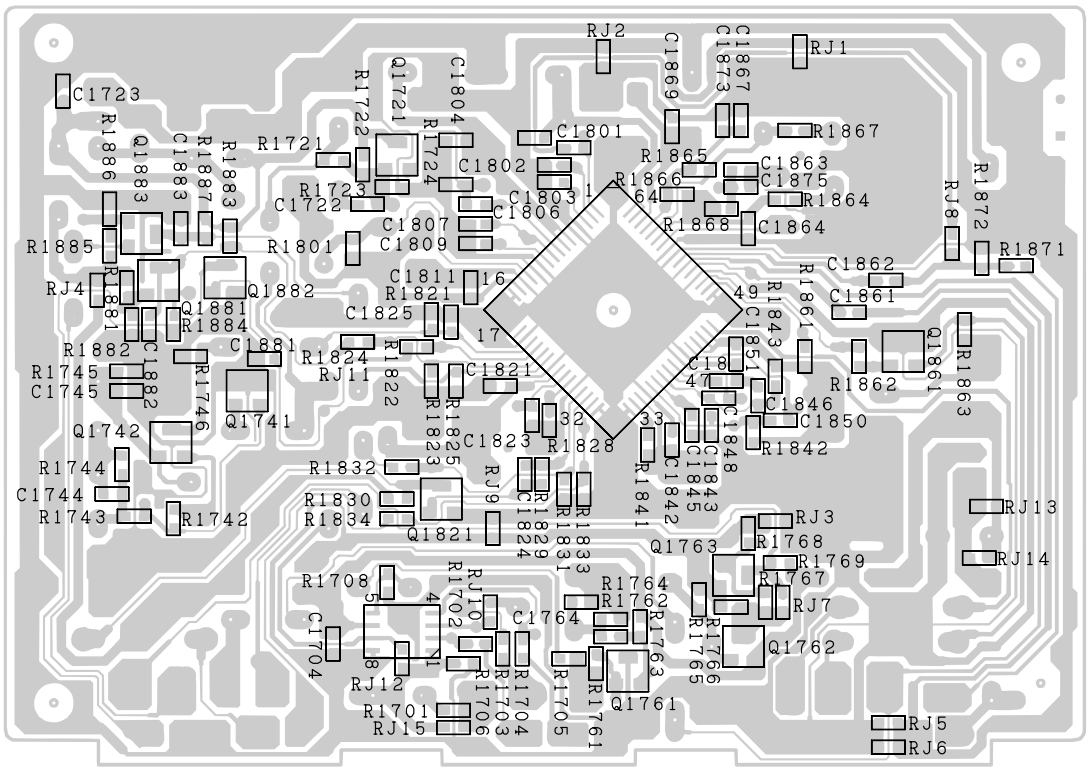
PWB-S: MTS MODULE Unit (Wiring Side)



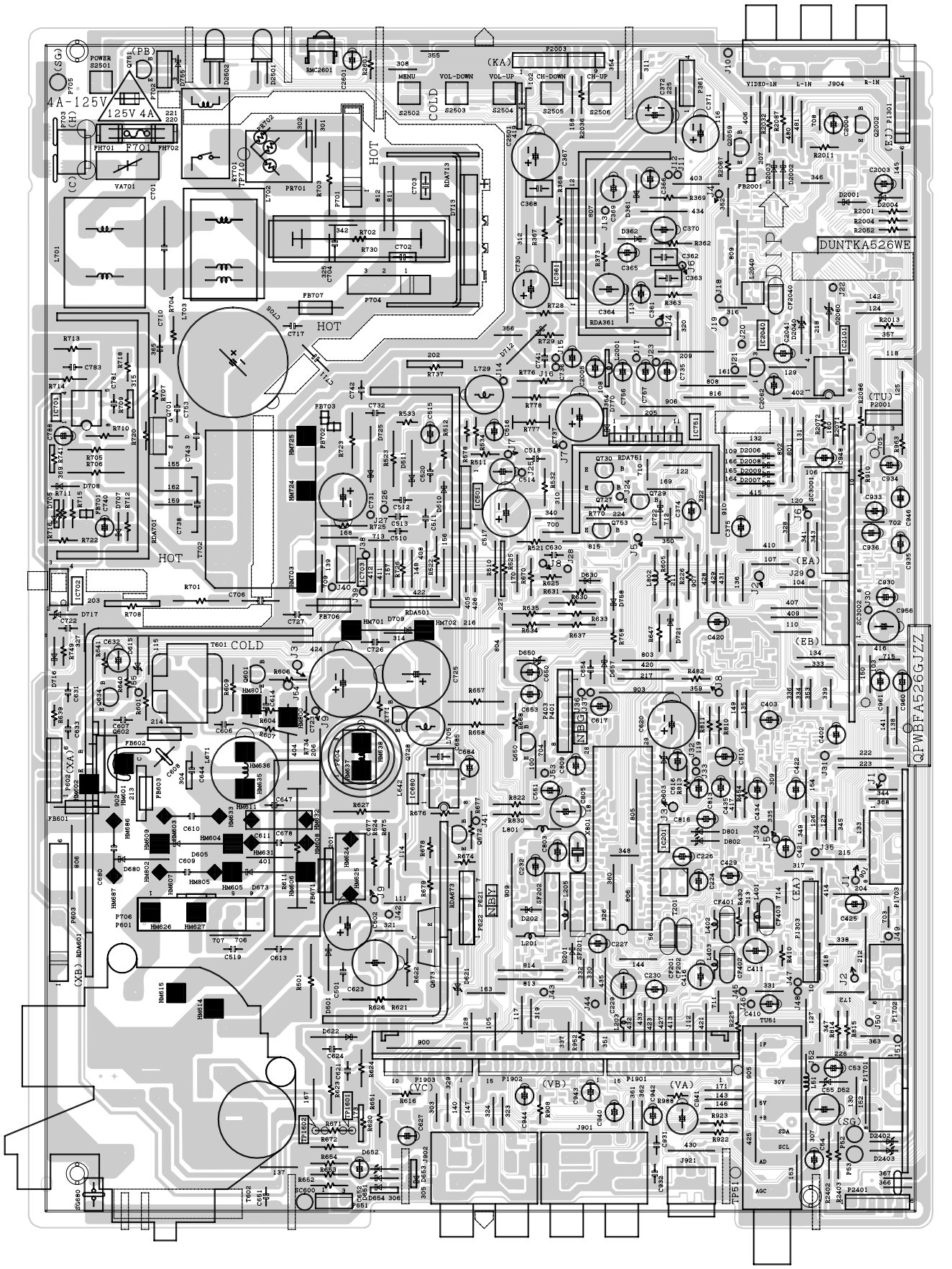
PWB-S: MTS MODULE Unit (Chip Parts Side)



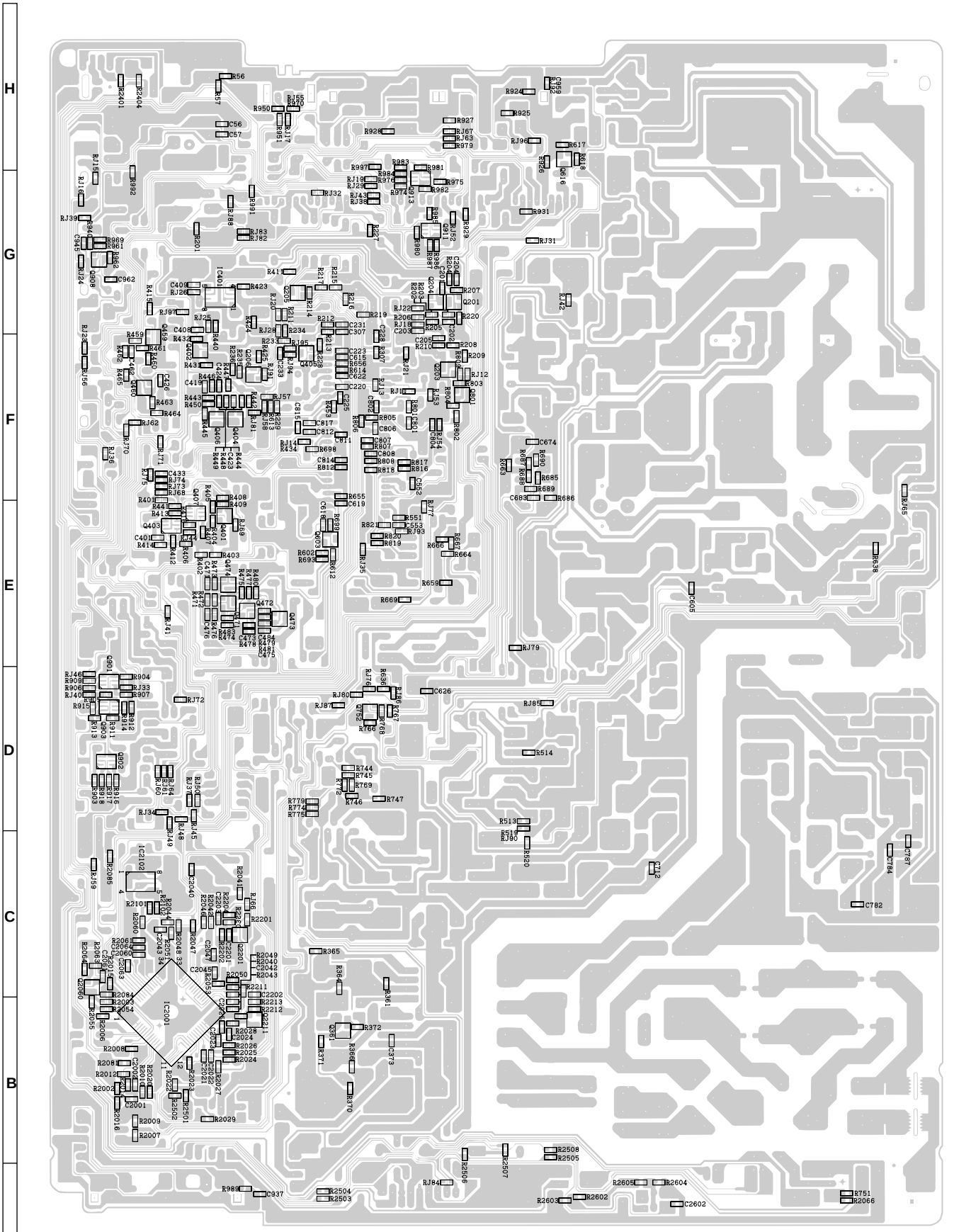
PWB-R: P-IN-P Unit (Wiring Side)
(Only for 27R-S400, 27R-S450)



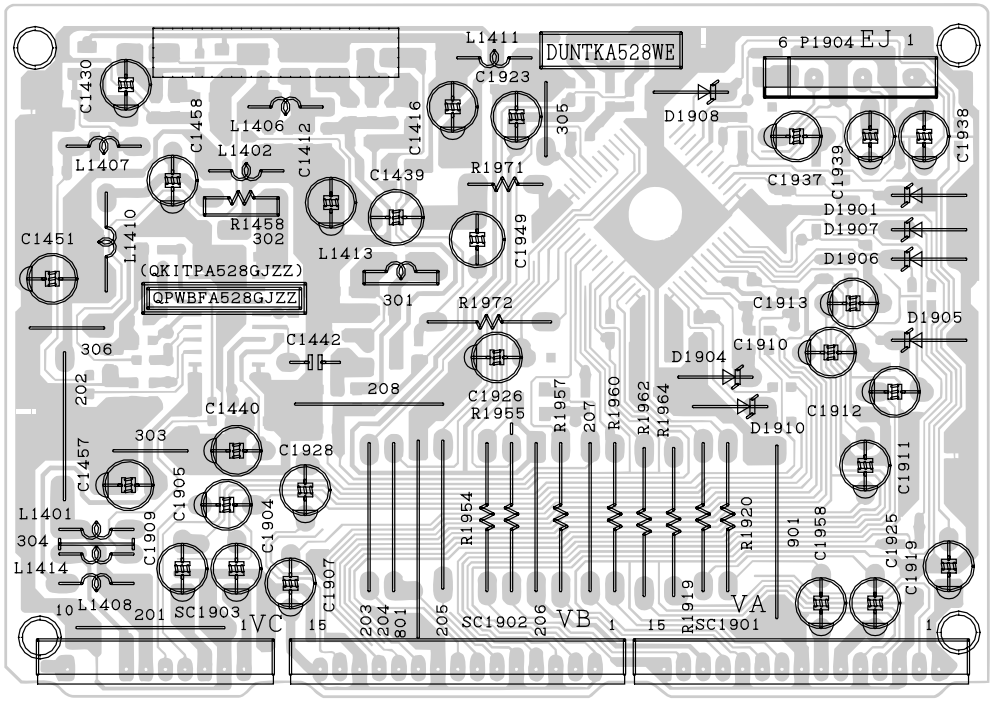
PWB-R: P-IN-P Unit (Chip Parts Side)
(Only for 27R-S400, 27R-S450)



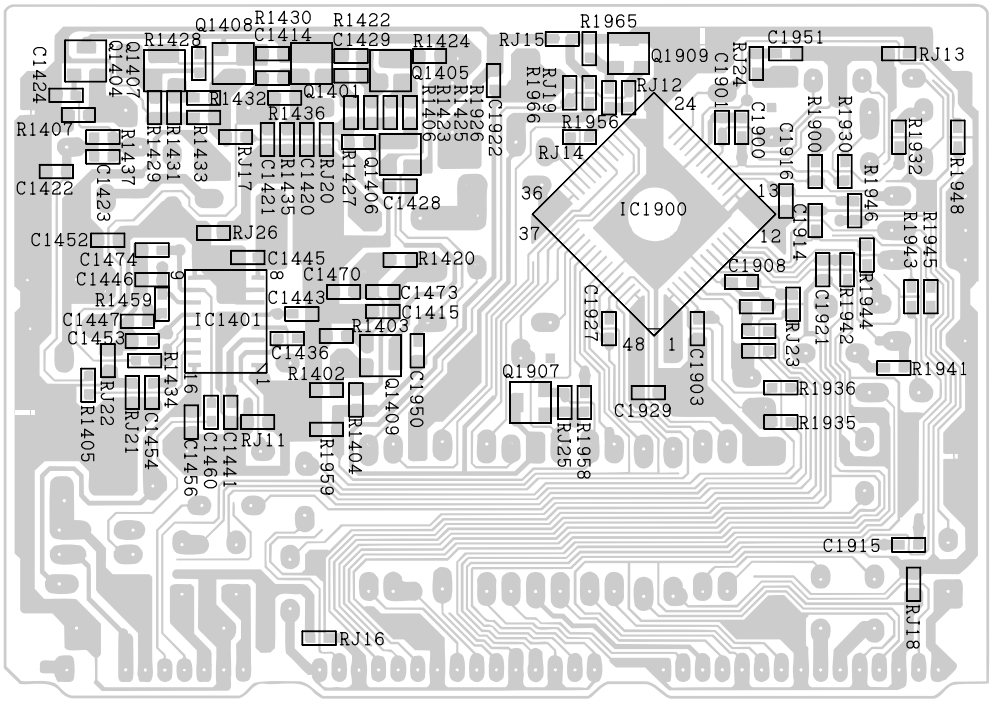
PWB-A: MAIN Unit (Wiring Side)



PWB-A: MAIN Unit (Chip Parts Side)



PWB-C: AV Unit (Wiring Side)



PWB-C: AV Unit (Chip Parts Side)

PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual; electrical components having such features are identified by ⚠ and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which does no have the same safety characteristic as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

in **USA**: Contact your nearest SHARP Parts Distributor to order. For location of SHARP Parts Distributor, Please call Toll-Free; 1-800-BE-SHARP

★MARK: SPARE PARTS-DELIVERY SECTION

▲ MARK : X- RAY RELATED PARTS

LISTE DES PIECES

CHANGE DES PIECES

Les pi`eces de rechange qui pr élelesentent ces caract éleristiques sp éleciales de s élecurit éle, sont identifi élees dans ce manuel : les pi`eces élelectriques qui pr élesentent ces particularit éles, sont rep éler élee par la marque ⚠ et sont hachur élees dans les listes de pi`eces et dans les diagrammes sch élematiques.
La substitution d'une pi`ece de rechange par une autre qui ne pr éLesente pas les m éoemes caract éLeristiques de s élecurit éle que la pi`ece recommand élee parl'usine et dans ce manuel de service, peut provoquer une éLelectrocution, un incendie ou toutautre sinistre.

"COMMENT COMMANDER LES PIECES DE RECHANGE"

Pour que votre commande soit rapidement et correctement remplie, veuillez fournir les renseignements suivants.

1. NUMERO DU MODELE
2. NO. DE REF
3. NO. DE PIECE
4. DESCRIPTION

in **CANADA**: Contact SHARP Electronics of Canada Limited
Phone (416) 890-2100

★MARQUE: SECTION LIVRAISON DES PIECES DE RECHANGE

▲ MARQUE : PIECES RELATIVE AUX RAYONS X

Ref. No.	Part No.	★	Description	Code

PICTURE TUBE

▲⚠ V101	VB68AJB82X/*S	X	CRT (DY601:H0113GJ)	CG
	or			
	VB68AJB82072E		CRT (I. T. C.)	
▲⚠ DY601	RCiLH0113GJZZ	X	DY (CRT:A68AJB82X)	BB
⚠ L703	RCiLG0038MEZZ	X	Degaussing Coil	AR
	or			
	RCiLG0120GJZZ			
	MSPRT0002MEZZ	X	Spring for CRT	AF
	PMAGF3046CEZZ	J	Magnet (27R-S400)	AF
	PMAGF3097CEZZ	X	Magnet (27R-S200/S450, CSR20027, CR27S20)	AU
⚠	QEARC2702MEZZ	X	Grounding Strap	AF

	CRT	DY	T602
COMBI-NATION	A68AJB82X	H0113GJ	F0033ME
	A68AJB82X07	ITC	

PRINTED WIRING BOARD ASSEMBLIES
(NOT REPLACEMENT ITEM)

PWB-A DUNTKA526WEA0	–	MAIN Unit (27R-S200, CR27S20)	—
PWB-A DUNTKA526WEA1	–	MAIN Unit (27R-S400)	—
PWB-A DUNTKA526WEA2	–	MAIN Unit (27R-S450)	—
PWB-A DUNTKA526WEB4	–	MAIN Unit (CSR20027)	—
PWB-B DUNTKA527WEA0	–	CRT Unit (27R-S200/S450, CSR20027, CR27S20)	—
PWB-B DUNTKA527WEA5	–	CRT Unit (27R-S400)	—
PWB-C DUNTKA528WEA6	–	AV Unit	—
PWB-R DUNTKA533WEA0	–	P-IN-P Unit (27R-S400/S450)	—
PWB-S DUNTKA070WEV3	–	MTS MODULE Unit	—

Ref. No.	Part No.	★	Description	Code

PWB-A: DUNTKA562WEA0 (27R-S200, CR27S20)
PWB-A: DUNTKA562WEA1 (27R-S400)
PWB-A: DUNTKA562WEA2 (27R-S450)
PWB-A: DUNTKA562WEB4 (CSR20027)
MAIN UNIT

TUNER

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

⚠ TU51	VTUVTST5UF740	X	Tuner	AX
	or			
	VTUENV56DA1G3			

INTEGRATED CIRCUITS

⚠ IC201	RH-iX3395CEN2	J	TB1252CN	AY
⚠ IC361	VHiAN5276//-1	J	AN5276	AR
⚠ IC501	VHiTA8427K/-1	J	TA8427K	AL
⚠ IC701	VHiTEA1507/-1	J	TEA1507P/N1	AL
⚠ IC702	RH-FX0008GEZZ	J	PC123FY8	AE
⚠ IC703	VHiSE120N//-1	J	SE120N	AG
IC751	VHiSTV8164+-1	X	I.C.	AM
IC2001	RH-iX3515CEZZ	X	I.C.	AM
IC2040	VHiKiA7045A-1	J	KIA7045AP	AE
	or			
	VHiKiA7045P-1			
IC2102	VHiBR2416E2-1	J	BR24C16F	AK

TRANSISTORS

Q201	VS2SC2735//1E	J	C2735	AC
Q205	VS2SC1623L61E	J	C1623L6	AB
	or			
	VS2SD601AR/-1			
Q206	VS2SC1623L61E	J	C1623L6	AB
	or			
	VS2SD601AR/-1			
Q361	VS2SA812-M51E	J	A812-M5	AC
	or			
	VS2SB709AR/-1			
Q402	VS2SA812-M51E	J	A812-M5	AC
	or			
	VS2SB709AR/-1			
Q405	VS2SC1623L61E	J	C1623L6	AB
	or			
	VS2SD601AR/-1			

PWB-A: DUNTKA562WEA0 (27R-S200, CR27S20)
PWB-A: DUNTKA562WEA1 (27R-S400)
PWB-A: DUNTKA562WEA2 (27R-S450)
PWB-A: DUNTKA562WEB4 (CSR20027)
MAIN UNITT (Continued)

Ref. No.	Part No.	★	Description	Code
Q459	VS2SA812-M51E or VS2SB709AR/-1	J	A812-M5 (27R-S200, CSR20027, CR27S20)	AC
Q460	VS2SA812-M51E or VS2SB709AR/-1	J	A812-M5 (27R-S200, CSR20027, CR27S20)	AC
Q471	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6 (27R-S200/S450, CSR20027, CR27S20)	AB
Q472	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6 (27R-S200/S450, CSR20027, CR27S20)	AB
Q473	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6 (27R-S200/S450, CSR20027, CR27S20)	AB
Q474	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6 (27R-S200/S450, CSR20027, CR27S20)	AB
Q601	VS2SC2482//-1	J	C2482	AD
⚠ Q602	VS2SD2634++-F or VS2SD2539//1E	X	D2634++	AM
Q616	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q650	VS2SA1266-Y-1	J	A1266-Y	AA
⚠ Q701	VSST6NC60FP1E	X	ST6NC60FP	AN
Q727	VS2SC3333//-1	J	C3333	AG
Q728	VS2SA1091-O1A	J	A1091-O	AA
Q729	VS2SA1266-Y-1	J	A1266-Y	AA
Q730	VS2SC3198-G-1	J	C3198-G	AA
Q751	VS2SC3198-G-1	J	C3198-G	AA
Q752	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q753	VS2SC3198-G-1	J	C3198-G	AA
Q801	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q901	VSiMX1C/C//-1	J	IMX1C/C	AB
Q903	VSiMX1C/C//-1	J	IMX1C/C	AB
Q908	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q2002	VS2SA1266-Y-1	J	A1266-Y	AA
Q2059	VS2SC3198-G-1	J	C3198-G	AA
Q2060	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q2201	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q2211	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB

DIODES

D52	RH-EX0676GEZZ	J	Zener Diode	AA
D361	VHD1SS119//-1	J	Diode	AB
D362	VHD1SS119//-1	J	Diode	AB
⚠ D501	RH-DX0131CEZZ	J	Diode	AC
D510	RH-DX0441CEZZ	J	Diode	AC
D511	RH-EX0654CEZZ	J	Zener Diode	AD
D603	RH-EX0631GEZZ	J	Zener Diode	AA
D621	RH-EX0631GEZZ	J	Zener Diode	AA
⚠ D622	RH-DX0131CEZZ	J	Diode	AC
D650	RH-EX0628GEZZ	J	Zener Diode	AC
▲⚠ D651	VHD1SS82///1A or VHD1SS244//-1	J	Diode	AC
▲⚠ D652	RH-EX0641GEZZ	J	Zener Diode	AA
▲⚠ D653	VHD1SS119//-1	J	Diode	AB
D657	VHD1SS119//-1	J	Diode	AB
D707	VHD1SS119//-1 or VHD1SS244//-1	J	Diode	AB
D708	VHD1SS119//-1 or VHD1SS244//-1	J	Diode	AB
⚠ D709	RH-DX0229CEZZ	J	Diode	AF
⚠ D712	RH-DX0468CEZZ	J	Diode	AE
⚠ D713	RH-DX0477CEZZ	J	Diode	AF
D716	VHD1SS119//-1	J	Diode	AB
D717	RH-EX0650GEZZ	J	Zener Diode	AB
D721	VHD1SS119//-1 or VHD1SS244//-1	J	Diode	AB
⚠ D725	RH-DX0407CEZZ or RH-DX0468CEZZ	J	Diode	AD
D755	VHD1SS119//-1	J	Diode	AB
D801	RH-EX0631GEZZ	J	Zener Diode (27R-S200/S450, CSR20027, CR27S20)	AA
D802	RH-EX0631GEZZ	J	Zener Diode (27R-S200/S450, CSR20027, CR27S20)	AA
D2001	VHD1SS119//-1	J	Diode (27R-S200, CSR20027, CR27S20)	AB
⚠ VA701	RH-VX0048CEZZ	J	Varistor	AE

PACKAGED CIRCUITS

⚠ PR702	RMPTP0092CEZZ	J	Packaged Circuit	AH
X801	RCRSB0278CEZZ	J	Crystal	AG

FILTERS AND COILS

CF202	RFiLC0447CEZZ	J	Ceramic Filter	AD
CF403	RFiLC0446CEZZ	J	Ceramic Filter	AD
CF2040	RFiLA0099CEZZ	J	Ceramic Filter	AE
L51	VP-CF100K0000	J	Peaking 10µH	AB
L201	VP-XF1R2K0000	J	Peaking 1.2µH	AB
L203	VP-DF100K0000	J	Peaking 10µH	AB
L401	VP-XF100K0000	J	Peaking 10µH	AB
L642	RCiLZ0102MEZZ or RCiLZ0101MEZZ	J	Coil	AH
⚠ L701	RCiLF0313CEZZ or RCiLF0273CEZZ	J	Coil	AH
⚠ L702	RCiLF0025PEZZ or RCiLF0273PEZZ or RCiLF0313CEZZ	R	Coil	AK
L705	RCiLP0179CEZZ	J	Coil	AD
L729	RCiLP0179CEZZ	J	Coil	AD
L801	VP-DF100K0000	J	Peaking 10µH	AB
L802	VP-DF6R8K0000	J	Peaking 6.8µH	AB
L2040	RCiLB0131CEZZ	J	Oscillation Coil	AE
SF201	RFiLC0405CEZZ	J	SAW Filter	AH

	C644	L642
COMBI-NATION	VCFPVC2DB514J	RCILZ0102MEZZ
	VCFPVC2DB474J	RCILZ0101MEZZ

PWB-A: DUNTKA562WEA0 (27R-S200, CR27S20)
PWB-A: DUNTKA562WEA1 (27R-S400)
PWB-A: DUNTKA562WEA2 (27R-S450)
PWB-A: DUNTKA562WEB4 (CSR20027)
MAIN UNITT (Continued)

TRANSFORMERS

Ref. No.	Part No.	★	Description	Code
T201	RCiLi0636CEZZ	X	IF Coil	AH
⚠ T601	RTRNZ0057PEZZ	R	Transformer	AK
▲⚠ T602	RTRNF0033MEZZ	X	H-Volt Transformer	AY
⚠ T702	RTRNW0004GJZZ	X	Transformer	AN

	T602	C610	R622	R621	C609
COMBINATION	F0033ME	PVC3CA742H	VRN-RL2HCR56J+ VRN-SV2HCR56J	VRN-RL3AB3R3J+ VRN-VV3AB3R3J	PVC3CA772H

CAPACITORS

[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]

Ref. No.	Part No.	★				Description	Code
C53	VCEA0A1HW105M	J	1.0	50V	EL.		AB
C54	VCEA0A1HW475M	J	4.7	50V	EL.		AB
C55	VCEA0A0JW108M	J	1000	6.3V	EL.		AC
C201	VCKYCY1HB102K	J	1000p	50V	Ceramic		AA
C202	VCKYCY1HB103K	J	0.01	50V	Ceramic		AA
C203	VCKYCY1HB102K	J	1000p	50V	Ceramic		AA
C204	VCKYCY1HB103K	J	0.01	50V	Ceramic		AA
C223	VCKYCY1CF104Z	J	0.1	16V	Ceramic		AA
C224	VCEA0A1HW475M	J	4.7	50V	EL.		AB
C225	VCKYCY1HB102K	J	1000p	50V	Ceramic		AA
C226	VCEA0A1HW224M	J	0.22	50V	EL.		AB
C227	VCEA0A1CW226M	J	22	16V	EL.		AB
C228	VCKYCY1CF104Z	J	0.1	16V	Ceramic		AA
C229	VCEA0A0JW337M	J	330	6.3V	EL.		AC
C230	VCEA0A1HW225M	J	2.2	50V	EL.		AB
C231	VCKYCY1CF104Z	J	0.1	16V	Ceramic		AA
C232	VCEA0A1HW474M	J	0.47	50V	EL.		AB
C233	VCKYCY1CF104Z	J	0.1	16V	Ceramic		AA
C307	VCKYCY1CF104Z	J	0.1	16V	Ceramic		AA
C361	VCEA0A1HW105M	J	1.0	50V	EL.		AB
C362	VCQYTA1HM123K	J	0.012	50V	Mylar		AA
C363	VCQYTA1HM123K	J	0.012	50V	Mylar		AA
C364	VCEA0A1EW227M	J	220	25V	EL.		AB
C365	VCEA0A1HW105M	J	1.0	50V	EL.		AB
C366	VCEA0A1CW106M	J	10	16V	EL.		AB
C367	VCEA0A1VW108M	J	1000	35V	EL.		AD
C368	VCKYPA1HF103Z	J	0.01	50V	Ceramic		AA
C369	VCEA0A1CW227M	J	220	16V	EL.		AC
C370	VCEA0A1CW227M	J	220	16V	EL.		AC
C371	VCEA0A1EW108M	J	1000	25V	EL.		AD
C372	VCEA0A1EW108M	J	1000	25V	EL.		AD
C373	VCKYCY1CF104Z	J	0.1	16V	Ceramic		AA
C374	VCEA0A1HW225M	J	2.2	50V	EL.		AB
C375	VCEA0A1HW225M	J	2.2	50V	EL.		AB
C419	VCKYCY1CF224Z	J	0.22	16V	Ceramic		AA
C420	VCEA0A1CW476M	J	47	16V	EL.		AB
C425	VCEA0A1HW105M	J	1.0	50V	EL.	(27R-S200, CSR20027, CR27S20)	AB
C426	VCKYCY1HB682K	J	6800p	50V	Ceramic	(27R-S200, CSR20027, CR27S20)	AA
C429	VCQYTA1HM103K	J	0.01	50V	Mylar		AB
C433	VCKYCY1HB103K	J	0.01	50V	Ceramic		AA
C434	VCEA0A1HW105M	J	1.0	50V	EL.		AB
C435	VCQYTA1HM104J	J	0.1	50V	Mylar		AA
C462	VCKYCY1CB473K	J	0.047	16V	Ceramic	(27R-S200, CSR20027, CR27S20)	AA
C471	VCKYCY1HB822K	J	8200p	50V	Ceramic	(27R-S200/S450, CSR20027, CR27S20)	AB
C473	VCCCCY1HH331J	J	330p	50V	Ceramic	(27R-S200/S450, CSR20027, CR27S20)	AA
C475	VCKYCY1CF104Z	J	0.1	16V	Ceramic	(27R-S200/S450, CSR20027, CR27S20)	AA
C476	VCKYCY1HB103K	J	0.01	50V	Ceramic	(27R-S200/S450, CSR20027, CR27S20)	AA
C484	VCKYCY1HB103K	J	0.01	50V	Ceramic	(27R-S200/S450, CSR20027, CR27S20)	AA
C501	VCKYPA2HB102K	J	1000p	500V	Ceramic		AA
C502	VCEA0A1VW108M	J	1000	35V	EL.		AD
C510	VCFYSA1JB564J	J	0.56	63V	Mylar		AE
C511	VCKYPA2HB391K	J	390p	500V	Ceramic		AA
C512	VCQYTA1HM473J	J	0.047	50V	Mylar		AA
C513	VCQYTA1HM103K	J	0.01	50V	Mylar		AB
C514	VCEA0A1VW107M	J	100	35V	EL.		AC
C515	VCEACA1HC225J	J	2.2	50V	EL.		AC
C516	VCEACA1HC105J	J	1.0	50V	EL.		AB
C517	VCEA0A1VW108M	J	1000	35V	EL.		AD
C519	VCFYSA1JB473J	J	0.047	63V	Mylar		AC
C551	VCEACA1HC474J	J	0.47	50V	EL.		AD
C552	VCKYCY1HB392K	J	3900p	50V	Ceramic		AA
C553	VCKYCY1HB392K	J	3900p	50V	Ceramic		AA
C606	VCKYPA2HB561K	J	560p	500V	Ceramic		AA
C607	VCKYPA1HB472K	J	4700p	50V	Ceramic		AA
⚠ C609	VCFPVC3CA772H or VCFPVC3ZA772H	J	7700p	1.6kV	M-Poly.		AE
⚠ C610	VCFPVC3CA742H or VCFPVC3ZA742H	X	7400p	1.6kV	M-Poly.		AD
C614	VCKYPA2HB102K	J	1000p	500V	Ceramic		AA
C615	VCKYCY1CF104Z	J	0.1	16V	Ceramic		AA
C616	VCEA0A1HW224M	J	0.22	50V	EL.		AB
C617	VCEA0A1HW474M	J	0.47	50V	EL.		AB
C618	VCKYCY1HB822K	J	8200p	50V	Ceramic		AB
C619	VCKYCY1HB103K	J	0.01	50V	Ceramic		AA
C620	VCEA0A1CW227M	J	220	16V	EL.		AC
C623	VCEA4A2EN106M	J	10	250V	EL.		AD
C624	VCKYPA2HB102K	J	1000p	500V	Ceramic		AA
C627	VCEA0A1HW106M	J	10	50V	EL.		AB
C644	VCFPVC2DB514J or VCFPVC2DB474J	X	0.51	200V	M-Poly.		AF
C647	VCKYPA2HB102K	J	1000p	500V	Ceramic		AA
C650	VCEA0A1HW105M	J	1.0	50V	EL.		AB
C651	VCQYTA2AA104K	J	0.1	100V	Mylar		AB
C652	VCEA0A1VW476M	J	47	35V	EL.		AB
C653	VCEA0A1VW226M	J	22	35V	EL.		AB
C654	VCFYFA1HA334J	J	0.33	50V	Mylar		AB
⚠ C701	RC-FZ036SCEZZ or RC-FZ028SCEZZ or RC-FZ037SCEZZ or RC-FZ029SCEZZ or RC-FZ021SCEZZ	J	0.1	AC125V	Plastic		AC
C702	RC-KZ0029CEZZ	J	0.01	500V	Ceramic		AC
C703	RC-KZ0029CEZZ	J	0.01	500V	Ceramic		AC
⚠ C705	RC-EZ0800CEZZ	J	560	200V	EL.		AQ
⚠ C706	RC-KZ021SCEZZ	J	3300p	2kV	Ceramic		AE
C717	VCKYPA2HB472K	J	4700p	500V	Ceramic		AB
C722	VCQYTA1HM104J	J	0.1	50V	Mylar		AA
⚠ C723	RC-EZ0724CEZZ	J	100	160V	EL.		AG
⚠ C725	RC-EZ0810CEZZ	X	330	160V	EL.		AL
C726	VCKYPH3DB561K	J	560p	2kV	Ceramic		AC
C727	VCKYPH3DB561K	J	560p	2kV	Ceramic		AC
C730	VCEA4A1VN108M	J	1000	35V	EL.		AD
C731	RC-EZ0385CEZZ	J	1000	160V	EL.		AE
C732	VCKYPA2HB102K	J	1000p	500V	Ceramic		AA
C735	VCEA0A1CW106M	J	10	16V	EL.		AB
C736	VCEA0A1CW106M	J	10	16V	EL.		AB
C737	VCEA0A1CW107M	J	100	16V	EL.		AC

PWB-A: DUNTKA562WEA0 (27R-S200, CR27S20)
PWB-A: DUNTKA562WEA1 (27R-S400)
PWB-A: DUNTKA562WEA2 (27R-S450)
PWB-A: DUNTKA562WEB4 (CSR20027)
MAIN UNITT (Continued)

Ref. No.	Part No.	★				Code
C738	VCFPVC3CA452H	X	4500p	1.6kV	M-Poly.	AF
C740	VCEA0A1EW476M	J	47	25V	EL.	AB
C741	VCKYPA2HB102K	J	1000p	500V	Ceramic	AA
C742	VCKYPA2HB102K	J	1000p	500V	Ceramic	AA
C756	VCEA0A1CW476M	J	47	16V	EL.	AB
C757	VCEA0A1CW476M	J	47	16V	EL.	AB
C784	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C787	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C788	VCEA0A1EW226M	J	22	25V	EL.	AB
C801	VCCCCY1HH110J	J	11p	50V	Ceramic	AA
C802	VCKYCY1HB222K	J	2200p	50V	Ceramic	AA
C803	VCEA0A1HW224M	J	0.22	50V	EL.	AB
C804	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C805	VCEA0A1CW337M	J	330	16V	EL.	AC
C806	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C807	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C808	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C809	VCEA0A1CW106M	J	10	16V	EL.	AB
C810	VCEA0A1CW106M	J	10	16V	EL.	AB
C811	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C812	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C813	VCEA0A1CW107M	J	100	16V	EL.	AC
C814	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C815	VCKYCY1HB103K	J	0.01	50V	Ceramic (27R-S200/S450, CSR20027, CR27S20)	AA
C816	VCEA0A1CW107M	J	100	16V	EL.	AC
C817	VCKYCY1HB103K	J	0.01	50V	Ceramic (27R-S200/S450, CSR20027, CR27S20)	AA
C930	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C931	VCQYTA1HM183K	J	0.018	50V	Mylar	AB
C932	VCQYTA1HM183K	J	0.018	50V	Mylar	AB
C933	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C935	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C936	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C945	VCKYCY1HB561K	J	560p	50V	Ceramic	AA
C946	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C948	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C956	VCEA0A1CW337M	J	330	16V	EL.	AC
C960	VCE9GA1HW475M	J	4.7	50V	EL. (N.P)	AB
C961	VCE9GA1HW475M	J	4.7	50V	EL. (N.P)	AB
C962	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C2001	VCCCCY1HH331J	J	330p	50V	Ceramic	AA
C2003	VCEA0A1HW106M	J	10	50V	EL.	AB
C2004	VCEA0A1CW476M	J	47	16V	EL.	AB
C2005	VCEA0A1CW106M	J	10	16V	EL.	AB
C2040	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C2041	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C2043	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C2060	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C2061	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2062	VCEA0A1AW107M	J	100	10V	EL.	AB
C2063	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C2064	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C2201	VCKYCY1HB681K	J	680p	50V	Ceramic	AA
C2202	VCCCCY1HH390J	J	39p	50V	Ceramic	AA
C2203	VCCCCY1HH101J	J	100p	50V	Ceramic (27R-S200/S450, CSR20027, CR27S20)	AA
C2601	VCEA0A1HW476M	J	47	50V	EL.	AB
C2602	VCCCCY1HH101J	J	100p	50V	Ceramic	AA

RESISTORS

[M-Ox.···Metal Oxide, M-Film···Metal Film]

Ref. No.	Part No.	★				Code
RJ11	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ12	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ13	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ14	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ15	VRS-CY1JF000J	J	0	1/16W	M-Ox. (27R-S200, CSR20027, CR27S20)	AA
RJ16	VRS-CY1JF000J	J	0	1/16W	M-Ox. (27R-S200, CSR20027, CR27S20)	AA
RJ17	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ18	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ19	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ20	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ21	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ22	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ25	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ26	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ28	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ29	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ31	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ32	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ33	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ34	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ35	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ37	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ38	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ39	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ41	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ43	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ44	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ46	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ52	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ53	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ54	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ55	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ56	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ57	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ58	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ60	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ61	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ62	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ63	VRS-CY1JF000J	J	0	1/16W	M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
RJ64	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ65	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ66	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ67	VRS-CY1JF000J	J	0	1/16W	M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
RJ68	VRS-CY1JF000J	J	0	1/16W	M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
RJ69	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ70	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ71	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ72	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ73	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ74	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ76	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ78	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ80	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ81	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ82	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ83	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ84	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ86	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ87	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ88	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ90	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ93	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ94	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ95	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ96	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ97	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
R57	VRS-CY1JF392J	J	3.9k	1/16W	M-Ox.	AA
R201	VRS-CY1JF151J	J	150	1/16W	M-Ox.	AA

PWB-A: DUNTKA562WEA0 (27R-S200, CR27S20)
PWB-A: DUNTKA562WEA1 (27R-S400)
PWB-A: DUNTKA562WEA2 (27R-S450)
PWB-A: DUNTKA562WEB4 (CSR20027)
MAIN UNITT (Continued)

Ref. No.	Part No.	★	Description	Code
R202	VRS-CY1JF122J	J	1.2k 1/16W M-Ox.	AA
R203	VRS-CY1JF122J	J	1.2k 1/16W M-Ox.	AA
R204	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R211	VRS-CY1JF331J	J	330 1/16W M-Ox.	AA
R212	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
R215	VRS-CY1JF152J	J	1.5k 1/16W M-Ox.	AA
R217	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R219	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R220	VRS-CY1JF392J	J	3.9k 1/16W M-Ox.	AA
R225	VRD-RA2BE680J	J	68 1/8W Carbon	AA
R226	VRD-RA2BE101J	J	100 1/8W Carbon	AB
R227	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA
R228	VRS-CY1JF272J	J	2.7k 1/16W M-Ox.	AA
R229	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
R233	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R234	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R235	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R236	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R307	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA
R361	VRS-CY1JF224J	J	220k 1/16W M-Ox.	AA
R362	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R363	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R364	VRS-CY1JF561J	J	560 1/16W M-Ox.	AA
R365	VRS-CY1JF561J	J	560 1/16W M-Ox.	AA
R367	VRN-RL3DBR56J	X	0.56 2W M-Film	AE
R368	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R369	VRD-RA2BE822J	J	8.2k 1/8W Carbon	AA
R370	VRS-CY1JF122J	J	1.2k 1/16W M-Ox.	AA
R371	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R372	VRS-CY1JF223J	J	22k 1/16W M-Ox.	AA
R415	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R430	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R431	VRS-CY1JF331J	J	330 1/16W M-Ox.	AA
R432	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R440	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R453	VRS-CY1JF103J	J	10k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R454	VRD-RA2BE101J	J	100 1/8W Carbon (27R-S200/S450, CSR20027, CR27S20)	AB
R459	VRS-CY1JF102J	J	1.0k 1/16W M-Ox. (27R-S200, CSR20027, CR27S20)	AA
R460	VRS-CY1JF102J	J	1.0k 1/16W M-Ox. (27R-S200, CSR20027, CR27S20)	AA
R461	VRS-CY1JF151J	J	150 1/16W M-Ox. (27R-S200, CSR20027, CR27S20)	AA
R462	VRS-CY1JF122J	J	1.2k 1/16W M-Ox. (27R-S200, CSR20027, CR27S20)	AA
R463	VRS-CY1JF474J	J	470k 1/16W M-Ox. (27R-S200, CSR20027, CR27S20)	AA
R464	VRS-CY1JF122J	J	1.2k 1/16W M-Ox. (27R-S200, CSR20027, CR27S20)	AA
R465	VRS-CY1JF101J	J	100 1/16W M-Ox. (27R-S200, CSR20027, CR27S20)	AA
R471	VRS-CY1JF223J	J	22k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R472	VRS-CY1JF821J	J	820 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R473	VRS-CY1JF102J	J	1.0k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R474	VRS-CY1JF471J	J	470 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R475	VRS-CY1JF102J	J	1.0k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R476	VRS-CY1JF393J	J	39k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R477	VRS-CY1JF182J	J	1.8k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R478	VRS-CY1JF151J	J	150 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R479	VRS-CY1JF393J	J	39k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R480	VRS-CY1JF273J	J	27k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R481	VRS-CY1JF152J	J	1.5k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R482	VRD-RA2BE101J	J	100 1/8W Carbon (27R-S200/S450, CSR20027, CR27S20)	AB
R483	VRS-CY1JF471J	J	470 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
⚠ R501	VRN-RL3ABR56J	J	0.56 1W M-Film	AA
R510	VRD-RA2BE471J	J	470 1/8W Carbon	AA
R511	VRD-RA2BE393J	J	39k 1/8W Carbon	AA
R512	VRD-RA2BE683J	J	68k 1/8W Carbon	AA
R513	VRS-CY1JF273J	J	27k 1/16W M-Ox.	AA
R514	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R520	VRS-CY1JF184J	J	180k 1/16W M-Ox.	AA
R523	VRN-RL3DB1R2J	X	1.2 2W M-Film	AF
R524	VRS-RG3AB391J	X	390 1W M-Ox.	AE
R533	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R534	VRD-RA2BE181J	J	180 1/8W Carbon	AA
R551	VRS-CY1JF562F	J	5.6k 1/16W M-Ox.	AA
R578	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R601	VRD-RM2HD220J	J	22 1/2W Carbon	AA
⚠ R604	VRS-KA3NG182J	X	1.8k 7W M-Ox.	AF
R605	VRD-RM2HD331J	J	330 1/2W Carbon	AA
R606	VRD-RM2HD331J	J	330 1/2W Carbon	AA
R609	VRS-RG3AB562J	X	5.6k 1W M-Ox.	AE
⚠ R611	VRW-KQ41C3R3K	J	3.3 15W Cement	AG
R612	VRS-CY1JF472J	J	4.7k 1/16W M-Ox.	AA
R613	VRS-CY1JF474J	J	470k 1/16W M-Ox.	AA
R614	VRS-CY1JF395J	J	3.9M 1/16W M-Ox.	AA
R616	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R617	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R618	VRS-CY1JF473J	J	47k 1/16W M-Ox.	AA
⚠ R621	VRN-RL3AB3R3J+ or VRN-VV3AB3R3J	X	3.3 1W M-Film	AE
⚠ R622	VRN-RL2HCR56J+ or VRS-SV2HCR56J	X	0.56 1/2W M-Film	AE
⚠ R623	VRN-RL3AB2R7J	X	2.7 1W M-Film	AE
⚠ R624	VRS-RG3DB332J	X	3.3k 2W M-Ox.	AE
R625	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
R627	VRS-KT3LB471J	J	470 3.0W M-Ox.	AD
R631	VRS-RG3AB103J	J	10k 1W M-Ox.	AB
R633	VRD-RA2EE103J	J	10k 1/4W Carbon	AA
R635	VRD-RA2EE683J	J	68k 1/4W Carbon	AA
R647	VRS-SV2HC220J	J	22 1/2W M-Ox.	AA
▲⚠ R651	VRN-RL2HC1R0J	X	1.0 1/2W M-Film	AE
▲⚠ R652	VRD-RA2EE103G	J	10k 1/4W Carbon	AA
▲⚠ R653	VRD-RA2EE562G	J	5.6k 1/4W Carbon	AA

PWB-A: DUNTKA562WEA0 (27R-S200, CR27S20)
PWB-A: DUNTKA562WEA1 (27R-S400)
PWB-A: DUNTKA562WEA2 (27R-S450)
PWB-A: DUNTKA562WEB4 (CSR20027)
MAIN UNITT (Continued)

Ref. No.	Part No.	★	Description	Code
▲⚠ R654	VRD-RA2EE393G	X	39k 1/4W Carbon	AE
R655	VRS-CY1JF562J	J	5.6k 1/16W M-Ox.	AA
R656	VRS-CY1JF224J	J	220k 1/16W M-Ox.	AA
⚠ R658	VRS-RG3DB123J	J	12k 2W M-Ox.	AA
R659	VRS-CY1JF471J	J	470 1/16W M-Ox.	AA
R664	VRS-CY1JF471J	J	470 1/16W M-Ox.	AA
R666	VRS-CY1JF223J	J	22k 1/16W M-Ox.	AA
R667	VRS-CY1JF562J	J	5.6k 1/16W M-Ox.	AA
R668	VRD-RA2BE680J	J	68 1/8W Carbon	AA
R669	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R670	VRD-RM2HD563J	J	56k 1/2W Carbon	AA
⚠ R671	VRS-RG2HC102J	J	1.0k 1/2W M-Ox.	AA
R672	VRD-RM2HD393J	J	39k 1/2W Carbon	AA
R699	VRS-CY1JF822J	J	8.2k 1/16W M-Ox.	AA
⚠ R701	RR-DZ0049CEZZ or RR-HZ0048CEZZ	J	3.9M 1/2W Solid	AB
⚠ R702	VRW-KQ4AC1R2K	J	1.2 10W Cement	AE
⚠ R705	VRN-RL3DBR22J	J	0.22 2W M-Film	AA
⚠ R706	VRN-RL3DBR22J	J	0.22 2W M-Film	AA
R707	VRD-RM2HD270J	J	27 1/2W Carbon	AA
R710	VRS-SV2HC103J	J	10k 1/2W M-Ox.	AA
R711	VRD-RA2BE334J	J	330k 1/8W Carbon	AA
R712	VRD-RA2BE100J	J	10 1/8W Carbon	AA
R713	VRS-RG2HC122J	X	1.2k 1/2W M-Ox.	AE
R714	VRD-RM2HD100J	J	10 1/2W Carbon	AA
R715	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R718	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
⚠ R725	VRD-RM2HD821J	J	820 1/2W Carbon	AA
R726	VRD-RM2HD122J	J	1.2k 1/2W Carbon	AA
⚠ R737	VRN-RL3DBR56J	X	0.56 2W M-Film	AE
R744	VRS-CY1JF272J	J	2.7k 1/16W M-Ox.	AA
R745	VRS-CY1JF472J	J	4.7k 1/16W M-Ox.	AA
R746	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R747	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R751	VRS-CY1JF473J	J	47k 1/16W M-Ox.	AA
R766	VRS-CY1JF682J	J	6.8k 1/16W M-Ox.	AA
R767	VRS-CY1JF393J	J	39k 1/16W M-Ox.	AA
R768	VRS-CY1JF562J	J	5.6k 1/16W M-Ox.	AA
R769	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R770	VRD-RA2EE823J	J	82k 1/4W Carbon	AA
R771	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R772	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R774	VRS-CY1JF393J	J	39k 1/16W M-Ox.	AA
R775	VRS-CY1JF563J	J	56k 1/16W M-Ox.	AA
R776	VRN-VV3DB3R3J	J	3.3 2W M-Film	AB
R777	VRS-KA3HG8R2K	J	8.2 5W M-Ox.	AD
R778	VRS-VV3AB101J	J	100 1W M-Ox.	AA
R779	VRS-CY1JF273J	J	27k 1/16W M-Ox.	AA
R801	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA
R802	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R804	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R805	VRS-CY1JF272J	J	2.7k 1/16W M-Ox.	AA
R806	VRS-CY1JF681J	J	680 1/16W M-Ox.	AA
R807	VRS-CY1JF681J	J	680 1/16W M-Ox.	AA
R808	VRS-CY1JF681J	J	680 1/16W M-Ox.	AA
R809	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R810	VRD-RA2BE101J	J	100 1/8W Carbon	AB
R811	VRD-RA2BE101J	J	100 1/8W Carbon	AB
R812	VRS-CY1JF224J	J	220k 1/16W M-Ox.	AA
R813	VRD-RA2BE271J	J	270 1/8W Carbon	AA
R814	VRD-RA2BE101J	J	100 1/8W Carbon (27R-S200/S450, CSR20027, CR27S20)	AB
R815	VRD-RA2BE101J	J	100 1/8W Carbon (27R-S200/S450, CSR20027, CR27S20)	AB
R816	VRS-CY1JF272J	J	2.7k 1/16W M-Ox.	AA
R817	VRS-CY1JF272J	J	2.7k 1/16W M-Ox.	AA
R818	VRS-CY1JF272J	J	2.7k 1/16W M-Ox.	AA
R819	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R820	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R821	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R822	VRD-RA2BE101J	J	100 1/8W Carbon	AB
R830	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
R903	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R904	VRS-CY1JF683J	J	68k 1/16W M-Ox.	AA
R905	VRS-CY1JF223J	J	22k 1/16W M-Ox.	AA
R906	VRS-CY1JF392J	J	3.9k 1/16W M-Ox.	AA
R907	VRS-CY1JF182J	J	1.8k 1/16W M-Ox.	AA
R909	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R910	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
R911	VRS-CY1JF683J	J	68k 1/16W M-Ox.	AA
R912	VRS-CY1JF223J	J	22k 1/16W M-Ox.	AA
R913	VRS-CY1JF392J	J	3.9k 1/16W M-Ox.	AA
R914	VRS-CY1JF182J	J	1.8k 1/16W M-Ox.	AA
R915	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R922	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
R923	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
R924	VRS-CY1JF750J	J	75 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R925	VRS-CY1JF750J	J	75 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R926	VRS-CY1JF750J	J	75 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R928	VRS-CY1JF750J	J	75 1/16W M-Ox.	AA
R940	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
R950	VRS-CY1JF750J	J	75 1/16W M-Ox.	AA
R951	VRS-CY1JF750J	J	75 1/16W M-Ox.	AA
R952	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R961	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
R962	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
R963	VRD-RA2BE331J	J	330 1/8W Carbon	AA
R969	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
R989	VRS-CY1JF750J	J	75 1/16W M-Ox.	AA
R991	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R992	VRS-CY1JF122J	J	1.2k 1/16W M-Ox.	AA
R2001	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R2002	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2004	VRD-RA2BE101J	J	100 1/8W Carbon	AB
R2006	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2007	VRS-CY1JF562J	J	5.6k 1/16W M-Ox.	AA
R2008	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R2009	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2010	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R2011	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R2016	VRS-CY1JF104J	J	100k 1/16W M-Ox.	AA
R2022	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2024	VRS-CY1JF472J	J	4.7k 1/16W M-Ox.	AA
R2025	VRS-CY1JF472J	J	4.7k 1/16W M-Ox.	AA
R2026	VRS-CY1JF472J	J	4.7k 1/16W M-Ox.	AA
R2027	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R2028	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R2029	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2040	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R2041	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA
R2042	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R2043	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA
R2044	VRS-CY1JF153J	J	15k 1/16W M-Ox.	AA
R2046	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R2047	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
R2048	VRS-CY1JF562J	J	5.6k 1/16W M-Ox.	AA
R2051	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R2052	VRD-RA2BE101J	J	100 1/8W Carbon	AB
R2054	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R2055	VRS-CY1JF682J	J	6.8k 1/16W M-Ox.	AA
R2060	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
R2061	VRS-CY1JF562J	J	5.6k 1/16W M-Ox.	AA
R2063	VRS-CY1JF222J	J	2.2k 1/16W M-Ox.	AA
R2064	VRS-CY1JF332J	J	3.3k 1/16W M-Ox.	AA

PWB-A: DUNTKA562WEA0 (27R-S200, CR27S20)
PWB-A: DUNTKA562WEA1 (27R-S400)
PWB-A: DUNTKA562WEA2 (27R-S450)
PWB-A: DUNTKA562WEB4 (CSR20027)
MAIN UNITT (Continued)

Ref. No.	Part No.	★	Description	Code
R2066	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2067	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R2081	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R2084	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2101	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R2102	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R2201	VRS-CY1JF222J	J	2.2k 1/16W M-Ox.	AA
R2202	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2203	VRS-CY1JF184J	J	180k 1/16W M-Ox.	AA
R2204	VRS-CY1JF223J	J	22k 1/16W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R2211	VRS-CY1JF222J	J	2.2k 1/16W M-Ox.	AA
R2212	VRS-CY1JF682J	J	6.8k 1/16W M-Ox.	AA
R2213	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA
R2401	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R2402	VRD-RA2BE101J	J	100 1/8W Carbon	AB
R2403	VRD-RA2BE101J	J	100 1/8W Carbon	AB
R2404	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R2501	VRS-CY1JF183J	J	18k 1/16W M-Ox.	AA
R2502	VRS-CY1JF183J	J	18k 1/16W M-Ox.	AA
R2503	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2504	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R2505	VRS-CY1JF822J	J	8.2k 1/16W M-Ox.	AA
R2506	VRS-CY1JF822J	J	8.2k 1/16W M-Ox.	AA
R2507	VRS-CY1JF183J	J	18k 1/16W M-Ox.	AA
R2508	VRS-CY1JF183J	J	18k 1/16W M-Ox.	AA
R2601	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R2603	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
R2605	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA

SWITCHES

S2501	QSW-K0003AJZZ or QSW-K0079GEZZ or QSW-K0202PEZZ	J	POWER	AB
S2502	QSW-K0003AJZZ or QSW-K0079GEZZ or QSW-K0202PEZZ	J	MENU	AB
S2503	QSW-K0003AJZZ or QSW-K0079GEZZ or QSW-K0202PEZZ	J	VOL-DOWN	AB
S2504	QSW-K0003AJZZ or QSW-K0079GEZZ or QSW-K0202PEZZ	J	VOL-UP	AB
S2505	QSW-K0003AJZZ or QSW-K0079GEZZ or QSW-K0202PEZZ	J	CH-DOWN	AB
S2506	QSW-K0003AJZZ or QSW-K0079GEZZ or QSW-K0202PEZZ	J	CH-UP	AB

MISCELLANEOUS PARTS

⚠ RY701	RRLYJ0081CEZZ or RRLYJ0094CEZZ	J	Relay	AL
⚠ F701	QFS-B4023CEZZ	J	Fuse, 4A-AC125V	AC
FB601	RBLN-0047CEZZ	J	Ferrite Bead	AB
FB702	RBLN-0020CEZZ	J	Ferrite Bead	AB
FB706	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB707	RBLN-0037CEZZ	J	Ferrite Bead	AB
FH701	QFSHD1013CEZZ	J	Fuse Holder	AC
FH702	QFSHD1014CEZZ	J	Fuse Holder	AC
J901	QTANJ0540CEZZ	X	Terminal, INPUT IN	AH
J902	QTANJ0541CEZZ	X	COMPONENT Terminal (27R-S200/S450)	AK
J904	QJAKG0074CEZZ	J	Front AV-IN (27R-S200/ S400/S450, CR27S20)	AF
J904	QJAKG0101GJZZ	X	Front AV-IN (CSR20027)	AH
J921	QSOCD0430CEZZ	J	Socket, S-Video	AE
P52	QPLGN0160CEZZ	J	Plug, 1-pin (SG)	AB
P361	QPLGN0461CEZZ	J	Plug, 4-pin (S)	AB
P401	QPLGN0861CEZZ	J	Plug, 8-pin (GBN)	AC
P601	QPLGN0160FJZZ	J	Plug, 5-pin (K)	AD
P621	QPLGN0761CEZZ	J	Plug, 7-pin (YBN)	AD
P651	QPLGN0361CEZZ	J	Plug, 3-pin (P651-3)	AB
P701	QPLGN0260CEZZ	J	Plug, 2-pin (M)	AC
P703	QPLGN0269GEZZ	J	Plug, 2-pin (P)	AB
P705	QPLGN0160CEZZ	J	Plug, 1-pin (SG)	AB
P706	QPLGN0160CEZZ	J	Plug, 1-pin	AB
P1301	QPLGN0561CEZZ	J	Plug, 5-pin (EJ)	AB
P1901	QPLGN1559REZZ	X	Plug, 15-pin (VA)	AF
P1902	QPLGN1559REZZ	X	Plug, 15-pin (VB)	AF
P1903	QPLGN1059REZZ	J	Plug, 10-pin (VC)	AC
P2401	QPLGN0561CEZZ	J	Plug, 5-pin	AB
SC3001	QSOCN0259FJ00	J	Socket, 10-pin (EA)	AE
RMC2601	RRMCU0222CEZZ or RRMCU0235CEZZ	J	R/C Receiver	AL
RDA361	PRDAR0108GJFW	X	Heat Sink, for IC361	AG
RDA501	PRDAR0113GJFW	X	Heat Sink, for IC501	AH
RDA602	PRDAR0114GJFW	X	Heat Sink, for Q602	AH
RDA701	PRDAR0112GJFW	X	Heat Sink, for Q701	AK
RDA751	PRDAR0111GJFW	X	Heat Sink, for IC751	AF
TP51	QLUGP0102PEZZ	R	Lug	AA
	LHLDW1002PEZZ	R	Holder	AB
	LX-BZ3049GEFD	J	Screw	AA
	LX-BZ3100CEFD	J	Screw	AA
	LX-HZ3007MEFD	X	Screw	AB
	MSPRK0034BMFW	J	Spring	AC

Ref. No.	Part No.	★	Description	Code

PWB-B: DUNTKA527WEA0 (27R-S200/S450,CSR20027, CR27S20)
PWB-B: DUNTKA527WEA5 (27R-S400)
CRT UNIT

INTEGRATED CIRCUIT

⚠	IC850	VHiTDA6103Q-1	J	TDA6103Q/N3	AL

TRANSISTORS

	Q850	VS2SA1266-Y-1	J	A1266-Y	AA
	Q851	VS2SC3198-G-1	J	C3198-G	AA
	Q1504	VS2SC3198-G-1	J	C3198-G (27R-S200/S450, CSR20027, CR27S20)	AA
	Q1505	VS2SA1266-Y-1	J	A1266-Y (27R-S200/S450, CSR20027, CR27S20)	AA
	Q1506	VS2SA1964E/-1	J	A1964E (27R-S200/S450, CSR20027, CR27S20)	AF
	Q1507	VS2SC5248E/-1	J	C5248E (27R-S200/S450, CSR20027, CR27S20)	AE

DIODES

	D853	RH-EX0647GEZZ or RH-EX0417GEZZ	J	Zener Diode	AA
	D854	VHD1SS119//-1	J	Diode	AB
	D855	VHD1SS119//-1	J	Diode	AB
	D1502	VHD1SS119//-1	J	Diode (27R-S200/S450, CSR20027, CR27S20)	AB
	D1503	VHD1SS119//-1	J	Diode (27R-S200/S450, CSR20027, CR27S20)	AB
	D1506	RH-DX0487CEZZ	J	Diode (27R-S200/S450, CSR20027, CR27S20)	AC
	D1507	RH-DX0487CEZZ	J	Diode (27R-S200/S450, CSR20027, CR27S20)	AC
	D1510	VHD1SS119//-1	J	Diode (27R-S200/S450,	AB

CAPACITORS

[EL.··· Electrolytic]

	C850	VCFYSB2EB823J	J	0.082	250V	Mylar	AD
	C851	RC-KZ018JCEZZ or RC-KZ015JCEZZ	J	0.01	AC250V	Ceramic	AC
	C852	VCEA0A1CW227M	J	220	16V	EL.	AC
	C853	VCFYFA1HA224J	J	0.22	50V	Mylar	AB
	C854	VCEA0A1CW227M	J	220	16V	EL.	AC
	C855	VCEA0A2EW106M	J	10	250V	EL.	AD
	C1501	VCEA0A1EW476M	J	47	25V	EL. (27R-S200/S450, CSR20027, CR27S20)	AB
	C1506	VCKYPA1HF103Z	J	0.01	50V	Ceramic (27R-S200/S450, CSR20027, CR27S20)	AA
	C1508	VCKYPA2HB472K	J	4700p	500V	Ceramic (27R-S200/S450, CSR20027, CR27S20)	AB
	C1509	VCKYPA1HB472K	J	4700p	50V	Ceramic (27R-S200/S450, CSR20027, CR27S20)	AA
	C1510	VCKYPA1HF103Z	J	0.01	50V	Ceramic (27R-S200/S450, CSR20027, CR27S20)	AA
	C1511	VCKYPA1HF103Z	J	0.01	50V	Ceramic (27R-S200/S450, CSR20027, CR27S20)	AA
	C1515	VCEA0A1EW476M	J	47	25V	EL. (27R-S200/S450, CSR20027, CR27S20)	AB
	C1516	VCEA0A1EW476M	J	47	25V	EL. (27R-S200/S450, CSR20027, CR27S20)	AB
	C1517	VCEA0A2AW106M	J	10	100V	EL. (27R-S200/S450, CSR20027, CR27S20)	AC
	C1518	VCCSPA2HL560K	J	56p	500V	Ceramic (27R-S200/S450, CSR20027, CR27S20)	AA
	C1519	VCEA0A2CW106M	J	10	160V	EL. (27R-S200/S450, CSR20027, CR27S20)	AD

RESISTORS

[M-Ox.··· Metal Oxide]

	R850	VRS-SV2HC152J	J	1.5k	1/2W	M-Ox.	AA
	R851	VRS-SV2HC152J	J	1.5k	1/2W	M-Ox.	AA
	R852	VRS-SV2HC152J	J	1.5k	1/2W	M-Ox.	AA
⚠	R853	VRS-SV2HC272J	J	2.7k	1/2W	M-Ox.	AA
⚠	R854	VRS-SV2HC272J	J	2.7k	1/2W	M-Ox.	AA
⚠	R855	VRS-SV2HC272J	J	2.7k	1/2W	M-Ox.	AA
	R856	VRD-RM2HD224J	J	220k	1/2W	Carbon	AA
	R857	VRD-RM2HD224J	J	220k	1/2W	Carbon	AA
	R858	VRD-RM2HD224J	J	220k	1/2W	Carbon	AA
	R862	VRC-MA2HG152K	J	1.5k	1/2W	Solid	AA
	R863	VRC-MA2HG152K	J	1.5k	1/2W	Solid	AA
	R864	VRC-MA2HG152K	J	1.5k	1/2W	Solid	AA
	R867	VRS-SV2HC392J	J	3.9k	1/2W	M-Ox.	AA
	R868	VRS-SV2HC222J	J	2.2k	1/2W	M-Ox.	AA
	R870	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
	R871	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
	R872	VRD-RA2EE680J	J	68	1/4W	Carbon	AA
	R873	VRD-RM2HD224J	J	220k	1/2W	Carbon	AA
	R874	VRD-RM2HD184J	J	180k	1/2W	Carbon	AA
	R875	VRD-RM2HD184J	J	180k	1/2W	Carbon	AA
	R876	VRD-RM2HD184J	J	180k	1/2W	Carbon	AA
	R877	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
⚠	R878	VRS-SV2HC120J	J	12	1/2W	M-Ox.	AA
	R1511	VRD-RA2BE101J	J	100	1/8W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AB
	R1513	VRS-VV3DB561J	J	560	2W	M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
	R1514	VRD-RA2BE100J	J	10	1/8W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1515	VRD-RA2BE820J	J	82	1/8W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1516	VRD-RA2BE820J	J	82	1/8W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1517	VRD-RA2BE122J	J	1.2k	1/8W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1518	VRD-RA2BE683J	J	68k	1/8W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1519	VRD-RA2BE123J	J	12k	1/8W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1520	VRD-RA2BE683J	J	68k	1/8W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1521	VRD-RA2BE122J	J	1.2k	1/8W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1522	VRD-RA2EE471J	J	470	1/4W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1525	VRD-RA2EE560J	J	56	1/4W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1526	VRD-RA2EE560J	J	56	1/4W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
	R1527	VRD-RM2HD1R5J	J	1.5	1/2W	Carbon (27R-S200/S450, CSR20027, CR27S20)	AA

Ref. No.	Part No.	★	Description	Code

PWB-B: DUNTKA527WEA0 (27R-S200/S450,CSR20027, CR27S20)
PWB-B: DUNTKA527WEA5 (27R-S400)
CRT UNIT (Continued)

R1528	VRD-RM2HD1R5J	J	1.5 1/2W Carbon (27R-S200/S450, CSR20027, CR27S20)	AA
R1529	VRS-VV3DB221J	J	220 2W M-Ox. (27R-S200/S450, CSR20027, CR27S20)	AA
R1530	VRD-RA2BE122J	J	1.2k 1/8W Carbon (27R-S200/S450, CSR20027, CR27S20)	AA

MISCELLANEOUS PARTS

FB1501	RBLN-0047CEZZ	J	Ferrite Bead (27R-S200/S450, CSR20027, CR27S20)	AB
P854	QPLGN0741CEZZ	J	Plug, 7-pin (YBN)	AC
P860	QPLGN0841CEZZ	J	Plug, 8-pin (GBN)	AB
P861	QPLGN0241CEZZ	J	Plug, 2-pin (PU) (27R-S200/S450, CSR20027, CR27S20)	AA
SC850	QSOCV0937CEZZ	J	CRT Socket	AL
RDA850	PRDAR0248PEFW	R	Heat Sink, for IC850	AF
RDA1506	PRDAR5072CEFW	J	Heat Sink, for Q1506 (27R-S200/S450, CSR20027, CR27S20)	AC
RDA1507	PRDAR5072CEFW	J	Heat Sink, for Q1507 (27R-S200/S450, CSR20027, CR27S20)	AC
	LX-BZ3100CEFD	J	Screw	AA

Ref. No.	Part No.	★	Description	Code

PWB-C: DUNTKA528WEA6
AV UNIT

INTEGRATED CIRCUITS

IC1401	VHiTC90A45F-1	J	TC90A45F	AM
IC1900	VHiCXA2089Q-1	J	CXA2089Q	AN

TRANSISTORS

Q1401	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q1404	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q1405	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q1406	VS2SA812-M51E or VS2SB709AR/-1	J	A812-M5	AC
Q1407	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q1408	VS2SA812-M51E or VS2SB709AR/-1	J	A812-M5	AC
Q1409	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q1907	VS2SC1623L61E or VS2SD601AR/-1	J	C1623L6	AB
Q1909	VS2SA812-M51E or VS2SB709AR/-1	J	A812-M5	AC

COILS

L1406	VP-XF330K0000	J	Peaking 33µH	AB
L1407	VP-XF150K0000	J	Peaking 15µH	AB
L1408	VP-XF100K0000	J	Peaking 10µH	AB
L1410	VP-XF100K0000	J	Peaking 10µH	AB
L1411	VP-XF100K0000	J	Peaking 10µH	AB
L1413	VP-XF330K0000	J	Peaking 33µH	AB
L1414	VP-XF330K0000	J	Peaking 33µH	AB

CAPACITORS

[EL.···Electrolytic]

C1415	VCCCCY1HH220J	J	22p	50V	Ceramic	AA
C1416	VCEA0A1CW107M	J	100	16V	EL.	AC
C1420	VCCCCY1HH120J	J	12p	50V	Ceramic	AA
C1421	VCCCCY1HH120J	J	12p	50V	Ceramic	AA
C1424	VCCCCY1HH390J	J	39p	50V	Ceramic	AA
C1428	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1429	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1430	VCEA0A1CW106M	J	10	16V	EL.	AB
C1436	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1439	VCE9GA1CW106M	J	10	16V	EL. (N.P)	AB
C1441	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1442	VCFYFA1HA474J	J	0.47	50V	Mylar	AC
C1443	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1445	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C1446	VCCCCY1HH181J	J	180p	50V	Ceramic	AA
C1447	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1453	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1454	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1456	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C1457	VCEA0A1CW476M	J	47	16V	EL.	AB
C1458	VCEA0A1CW106M	J	10	16V	EL.	AB
C1460	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1470	VCCCCY1HH100D	J	10p	50V	Ceramic	AA
C1473	VCCCCY1HH100D	J	10p	50V	Ceramic	AA
C1474	VCCCCY1HH150J	J	15p	50V	Ceramic	AA
C1900	VCKYCY1HB681K	J	680p	50V	Ceramic	AA
C1901	VCKYCY1HB681K	J	680p	50V	Ceramic	AA

PWB-C: DUNTKA528WEA6

AV UNIT (Continued)

Ref. No.	Part No.	★	Description			Code
C1903	VCKYCY1HB681K	J	680p	50V	Ceramic	AA
C1904	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1905	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1906	VCKYCY1HB681K	J	680p	50V	Ceramic	AA
C1907	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1908	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1909	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1910	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1911	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1912	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1913	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1914	VCKYCY1HB681K	J	680p	50V	Ceramic	AA
C1915	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1916	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1921	VCKYCY1HB681K	J	680p	50V	Ceramic	AA
C1922	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C1923	VCEA0A1CW107M	J	100	16V	EL.	AC
C1926	VCEA0A1CW226M	J	22	16V	EL.	AB
C1927	VCKYCY1HB681K	J	680p	50V	Ceramic	AA
C1928	VCEA0A1CW106M	J	10	16V	EL.	AB
C1929	VCKYCY1HB681K	J	680p	50V	Ceramic	AA
C1937	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1938	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1939	VCEA0A1HW105M	J	1.0	50V	EL.	AB

RESISTORS

[M-Ox.···Metal Oxide]

RJ11	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ13	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ14	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ15	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ16	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ17	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ18	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ19	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ21	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ22	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ23	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ26	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
R1402	VRS-CY1JF681J	J	680	1/16W	M-Ox.	AA
R1403	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1404	VRS-CY1JF182J	J	1.8k	1/16W	M-Ox.	AA
R1405	VRS-CY1JF471J	J	470	1/16W	M-Ox.	AA
R1406	VRS-CY1JF821J	J	820	1/16W	M-Ox.	AA
R1407	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1420	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R1422	VRS-CY1JF473J	J	47k	1/16W	M-Ox.	AA
R1423	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1424	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1425	VRS-CY1JF221J	J	220	1/16W	M-Ox.	AA
R1426	VRS-CY1JF391J	J	390	1/16W	M-Ox.	AA
R1427	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1428	VRS-CY1JF473J	J	47k	1/16W	M-Ox.	AA
R1429	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1430	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1431	VRS-CY1JF122J	J	1.2k	1/16W	M-Ox.	AA
R1432	VRS-CY1JF331J	J	330	1/16W	M-Ox.	AA
R1433	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1434	VRS-CY1JF471J	J	470	1/16W	M-Ox.	AA
R1435	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1459	VRS-CY1JF821J	J	820	1/16W	M-Ox.	AA
R1900	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R1930	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1932	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1935	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R1936	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1937	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R1938	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1941	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R1942	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1943	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R1944	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1945	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R1946	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R1954	VRD-RA2BE221J	J	220	1/8W	Carbon	AA
R1955	VRD-RA2BE221J	J	220	1/8W	Carbon	AA
R1956	VRS-CY1JF222J	J	2.2k	1/16W	M-Ox.	AA
R1957	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R1958	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R1959	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1960	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R1962	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R1964	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R1965	VRS-CY1JF222J	J	2.2k	1/16W	M-Ox.	AA
R1966	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1971	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R1972	VRD-RA2BE101J	J	100	1/8W	Carbon	AB

MISCELLANEOUS PARTS

P1904	QPLGN0541CEZZ	J	Plug, 5-pin(EJ)	AB
SC1901	QSOCN1598REZZ	J	Socket, 15-pin(VA)	AE
SC1902	QSOCN1598REZZ	J	Socket, 15-pin(VB)	AE
SC1903	QSOCN1098REZZ	J	Socket, 10-pin(VC)	AC
SLD1901	PSLDM0102GJFW	J	Shield	AP

PWB-R: DUNTKA533WEA0 (27R-S400/S450)
P-IN-P UNIT

INTEGRATED CIRCUIT

Ref. No.	Part No.	★	Description	Code
IC1801	VHiM65667FP-2	J	M65667FP	BC

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
Q1721	VS2SC1623L61E	J	C1623L6	AB
Q1741	VS2SA812-M51E	J	A812-M5	AC
Q1742	VS2SA812-M51E	J	A812-M5	AC
Q1761	VS2SA812-M51E	J	A812-M5	AC
Q1762	VS2SA812-M51E	J	A812-M5	AC
Q1791	VS2SC1959Y/1E	J	C1959Y	AC
Q1861	VS2SA812-M51E	J	A812-M5	AC
Q1881	VS2SC1623L61E	J	C1623L6	AB
Q1882	VS2SC1623L61E	J	C1623L6	AB
Q1883	VS2SC1623L61E	J	C1623L6	AB

DIODES

You can substitute "RH-DX0475CEZZ" for "VHD1SS119//-1".

Ref. No.	Part No.	★	Description	Code
D1791	RH-EX0604GEZZ	J	Zener Diode	AB
D1801	VHD1SS119//-1	J	Diode	AB
D1821	VHD1SS119//-1	J	Diode	AB

CRYSTAL AND COILS

Ref. No.	Part No.	★	Description	Code
X1861	RCRSB0283CEZZ or RCRSB0241CEZZ	J	Crystal	AG
L1721	VP-XF680K0000	J	Peaking 68µH	AB
L1801	VP-XF100K0000	J	Peaking 10µH	AB
L1821	VP-XF100K0000	J	Peaking 10µH	AB
L1861	VP-XF100K0000	J	Peaking 10µH	AB
L1862	VP-XF100K0000	J	Peaking 10µH	AB
L1863	VP-XF100K0000	J	Peaking 10µH	AB

CAPACITORS

[EL.··· Electrolytic]

Ref. No.	Part No.	★			Description	Code
C1721	VCEA0A1HW106M	J	10	50V	EL.	AB
C1722	VCCCCY1HH330J	J	33p	50V	Ceramic	AA
C1741	VCQYTA1HM473J	J	0.047	50V	Mylar	AA
C1742	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1743	VCQYTA1HM472J	J	4700p	50V	Mylar	AB
C1761	VCQYTA1HM473J	J	0.047	50V	Mylar	AA
C1762	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C1763	VCQYTA1HM682J	J	6800p	50V	Mylar	AB
C1781	VCEA0A1CW476M	J	47	16V	EL.	AB
C1791	VCEA0A1AW107M	J	100	10V	EL.	AB
C1792	VCEA0A1AW107M	J	100	10V	EL.	AB
C1801	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C1802	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1803	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1804	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1805	VCEA0A1HW106M	J	10	50V	EL.	AB
C1806	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C1807	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1809	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1810	VCEA0A1CW226M	J	22	16V	EL.	AB
C1811	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1812	VCEA0A1HW106M	J	10	50V	EL.	AB
C1821	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1822	VCEA0A1HW106M	J	10	50V	EL.	AB
C1841	VCEA0A1HW106M	J	10	50V	EL.	AB
C1842	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1843	VCCCCY1HH680J	J	68p	50V	Ceramic	AA
C1845	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1846	VCCCCY1HH151J	J	150p	50V	Ceramic	AA
C1847	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1848	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C1849	VCEA0A1HW106M	J	10	50V	EL.	AB
C1850	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C1851	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1861	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C1862	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C1863	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C1865	VCFYFA1HA154J	J	0.15	50V	Mylar	AC
C1866	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C1867	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C1868	VCFYFA1HA474J	J	0.47	50V	Mylar	AC
C1869	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C1870	VCEA0A1HW106M	J	10	50V	EL.	AB
C1871	VCEA0A1HW106M	J	10	50V	EL.	AB
C1872	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA

RESISTORS

[M-Ox.··· Metal Oxide]

Ref. No.	Part No.	★			Description	Code
RJ1	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ2	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ4	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ6	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ7	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ8	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ9	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ11	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ12	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ14	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ15	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
R1721	VRS-CY1JF332J	J	3.3k	1/16W	M-Ox.	AA
R1722	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R1723	VRS-CY1JF822J	J	8.2k	1/16W	M-Ox.	AA
R1724	VRS-CY1JF222J	J	2.2k	1/16W	M-Ox.	AA
R1741	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R1742	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1743	VRS-CY1JF151J	J	150	1/16W	M-Ox.	AA
R1744	VRS-CY1JF122J	J	1.2k	1/16W	M-Ox.	AA
R1745	VRS-CY1JF474J	J	470k	1/16W	M-Ox.	AA
R1746	VRS-CY1JF122J	J	1.2k	1/16W	M-Ox.	AA
R1747	VRD-RA2BE822J	J	8.2k	1/8W	Carbon	AA
R1761	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1762	VRS-CY1JF151J	J	150	1/16W	M-Ox.	AA
R1763	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1764	VRS-CY1JF122J	J	1.2k	1/16W	M-Ox.	AA
R1765	VRS-CY1JF474J	J	470k	1/16W	M-Ox.	AA
R1766	VRS-CY1JF122J	J	1.2k	1/16W	M-Ox.	AA
R1791	VRD-RA2BE151J	J	150	1/8W	Carbon	AA
R1801	VRS-CY1JF473J	J	47k	1/16W	M-Ox.	AA
R1821	VRS-CY1JF123J	J	12k	1/16W	M-Ox.	AA
R1822	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R1823	VRS-CY1JF183J	J	18k	1/16W	M-Ox.	AA
R1825	VRS-CY1JF183J	J	18k	1/16W	M-Ox.	AA
R1828	VRS-CY1JF153J	J	15k	1/16W	M-Ox.	AA
R1831	VRS-CY1JF332J	J	3.3k	1/16W	M-Ox.	AA
R1832	VRS-CY1JF682J	J	6.8k	1/16W	M-Ox.	AA
R1833	VRS-CY1JF272J	J	2.7k	1/16W	M-Ox.	AA
R1834	VRS-CY1JF222J	J	2.2k	1/16W	M-Ox.	AA
R1841	VRS-CY1JF153J	J	15k	1/16W	M-Ox.	AA
R1842	VRS-CY1JF471J	J	470	1/16W	M-Ox.	AA
R1843	VRS-CY1JF391J	J	390	1/16W	M-Ox.	AA
R1861	VRS-CY1JF153J	J	15k	1/16W	M-Ox.	AA
R1862	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1863	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R1864	VRS-CY1JF221J	J	220	1/16W	M-Ox.	AA
R1865	VRS-CY1JF474J	J	470k	1/16W	M-Ox.	AA
R1866	VRS-CY1JF104J	J	100k	1/16W	M-Ox.	AA
R1867	VRS-CY1JF202J	J	2.0k	1/16W	M-Ox.	AA
R1868	VRS-CY1JF510J	J	51	1/16W	M-Ox.	AA
R1871	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
R1881	VRS-CY1JF473J	J	47k	1/16W	M-Ox.	AA
R1882	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1883	VRS-CY1JF123J	J	12k	1/16W	M-Ox.	AA
R1884	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R1885	VRS-CY1JF473J	J	47k	1/16W	M-Ox.	AA
R1886	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R1887	VRS-CY1JF123J	J	12k	1/16W	M-Ox.	AA
R1889	VRD-RA2BE101J	J	100	1/8W	Carbon	AB

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
P1701	QPLGZ0810CEZZ	J	Plug, 8-pin	AD
P1702	QPLGZ0610CEZZ	J	Plug, 6-pin	AB
P1703	QPLGZ0810CEZZ	J	Plug, 8-pin	AD
SLD1801	PSLDM0012MEFW	J	Shield	AD

PWB-S: DUNTKA070WEV3
MTS MODULE UNIT

Ref. No.	Part No.	★	Description			Code
INTEGRATED CIRCUIT						
IC3001	VHiCXA2074Q-1	J	CXA2074Q			AY
CAPACITORS						
	[EL.···Electrolytic]					
C3001	VCE9GA1HW475M	J	4.7	50V	EL. (N.P)	AB
C3002	VCKYCY1HB562K	J	5600p	50V	Ceramic	AA
C3003	VCQYTA1HM123K	J	0.012	50V	Mylar	AA
C3004	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C3005	VCEA9A1HW475M	J	4.7	50V	EL.	AB
C3006	VCEA0A1HW106M	J	10	50V	EL.	AB
C3007	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C3008	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C3009	VCEA0A1CW227M	J	220	16V	EL.	AC
C3010	VCE9GA1HW475M	J	4.7	50V	EL. (N.P)	AB
C3011	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C3012	VCE9GA1HW475M	J	4.7	50V	EL. (N.P)	AB
C3013	VCKYCY1HB272K	J	2700p	50V	Ceramic	AA
C3014	VCQYTA1HM473K	J	0.047	50V	Mylar	AB
C3015	VCEACA1HC335K	X	3.3	50V	EL.	AF
C3016	VCE9GA1HW475M	J	4.7	50V	EL. (N.P)	AB
C3017	VCEACA1CC106K	J	10	16V	EL.	AC
C3018	VCEA0A1HW105M	J	1.0	50V	EL.	AB
RESISTORS						
	[M-Ox.···Metal Oxide]					
RJ1	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ2	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ3	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ4	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ5	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ6	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
R3001	VRS-CY1JF221J	J	220	1/16W	M-Ox.	AA
R3002	VRS-CY1JF221J	J	220	1/16W	M-Ox.	AA
R3003	VRS-CY1JF105J	J	1.0M	1/16W	M-Ox.	AA
R3004	VRS-CY1JF104J	J	100k	1/16W	M-Ox.	AA
R3005	VRS-CY1JF623J	J	62k	1/16W	M-Ox.	AA
R3007	VRS-CY1JF332J	J	3.3k	1/16W	M-Ox.	AA
R3008	VRS-CY1JF302J	J	3.0k	1/16W	M-Ox.	AA
R3010	VRS-CY1JF392J	J	3.9k	1/16W	M-Ox.	AA
R3011	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R3012	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R3373	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
MISCELLANEOUS PARTS						
P3001	QPLGN0242FJ00	J	Plug, 10-pin (EA)			AE

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
⚠ ACC701	QACCD3065CESA	X	AC Cord	AN
SP1	VSP0080PBQ88A	X	Speaker (L), 8 ohm	AH
SP2	VSP0080PBQ88A	X	Speaker (R), 8 ohm	AH
	QCNW-0133GJZZ	X	Connecting Cord (YBN)	AG
	QCNW-0134GJZZ	X	Connecting Cord (GBN)	AH
	QCNW-0135GJZZ	X	Connecting Cord (EJ)	AH
	QCNW-0136GJZZ	X	Connecting Cord (SP)	AG
	QCNW-0167GJZZ	X	Connecting Cord	AF
	LHLDK0014PEZZ	J	AC Cord Holder	AD
	LX-TZ0104GJFD	X	Screw for CRT	AF
	LX-WZ0104GJFD	X	CRT Washer	AC
	TCAUH3045GJZZ	X	Caution Label	AB
	TCAUS3001GJZZ	X	Caution Label (CR27S20)	AE
	TCAUS3002GJZZ	X	Caution Label (CR27S20)	AE
	TLABZ0152GJZZ	X	Feature Label	AD

SUPPLIED ACCESORRIES

Ref. No.	Part No.	★	Description	Code
	RRMCG1626CESA	X	Infrared R/C (27R-S200, CSR20027, CR27S20)	AV
	RRMCG1627CESA	X	Infrared R/C (27R-S400/S450)	AU
	TGAN-0001GJZZ	X	Guarantee Card	AB
	TiNS-7358GJZZ	X	Operation Manual (27R-S200)	AK
	TiNS-7377GJZZ	X	Operation Manual (27R-S400/S450)	AE
	TiNS-7477GJZZ	X	Operation Manual (CSR20027)	AN
	TiNS-7502GJZZ	X	Operation Manual (CR27S20)	AK

PACKING PARTS
(NOT REPLACEMANT ITEM)

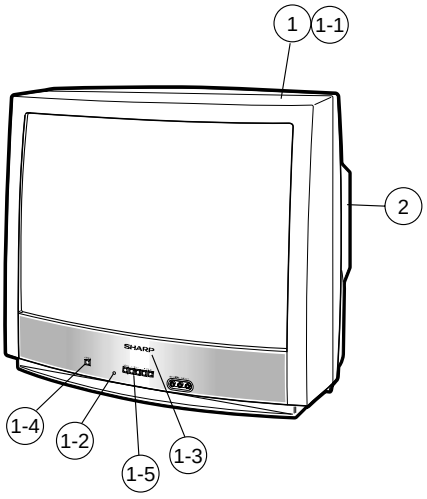
Ref. No.	Part No.	★	Description	Code
	SPAKC0146GJZZ	–	Packing Case (27R-S200)	—
	SPAKC0217GJZZ	–	Packing Case (27R-S400, CSR20027, CR27S20)	—
	SPAKC0218GJZZ	–	Packing Case (27R-S450)	—
	SPAKP0109GJZZ	–	Polyethylene Sheet	—
	SPAKX0121GJZZ	–	Buffer Material	—
	SSAKA0101GJZZ	–	Polyethylene Bag	—
	TLABZ0148GJZZ	–	Packing Case Label (CSR20027)	—
	TLABZ0155GJZZ	–	Packing Case Label (CR27S20)	—

Ref. No.	Part No.	★	Description	Code

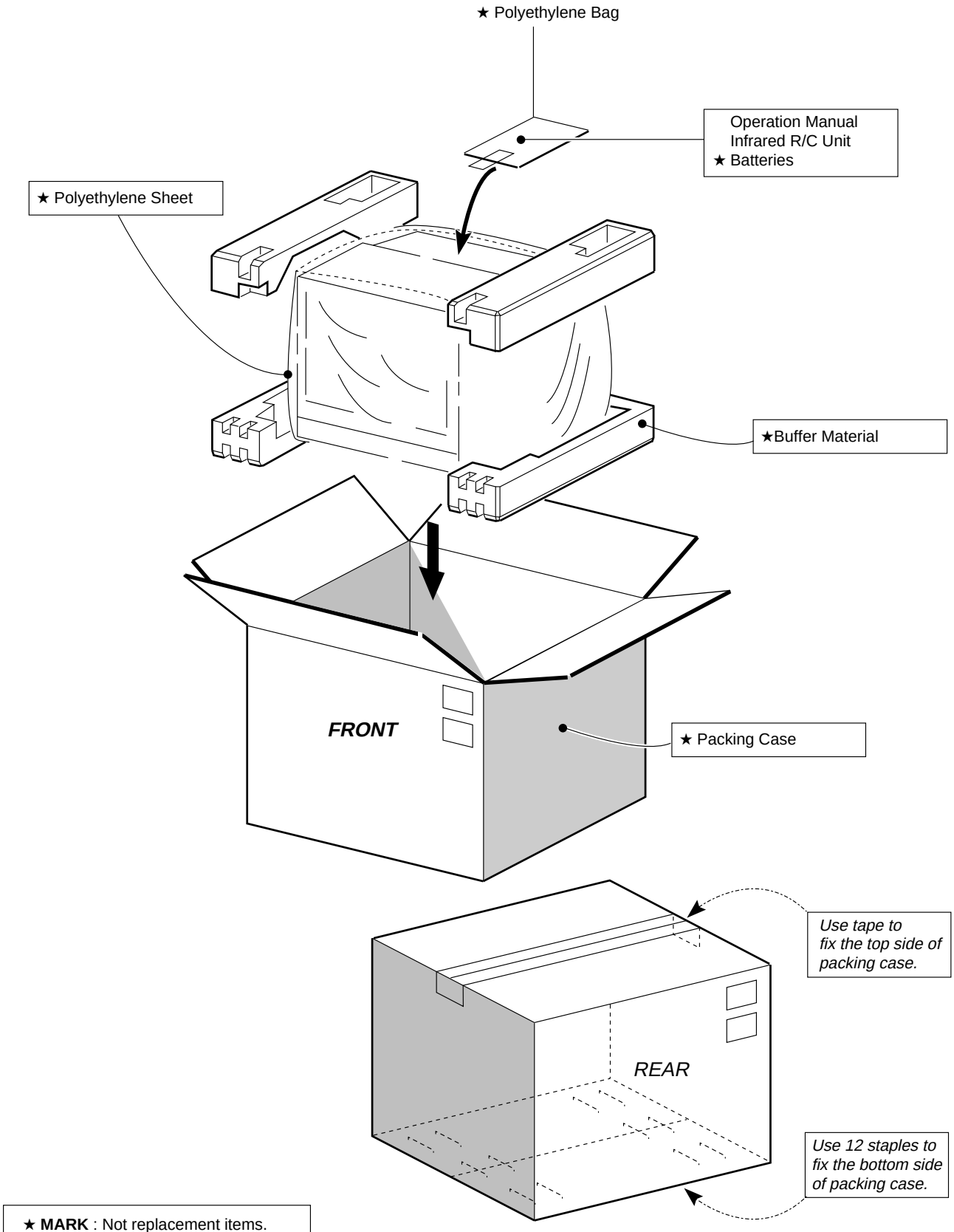
CABINET PARTS

1	CCABA0118WEH0	X	Front Cabinet Ass'y (27R-S200)	BM
1	CCABA0145WEH0	X	Front Cabinet Ass'y (27R-S400)	BM
1	CCABA0146WEH0	X	Front Cabinet Ass'y (27R-S450)	BM
1	CCABA0118WEH1	X	Front Cabinet Ass'y (CSR20027)	BC
1	CCABA0118WEH2	X	Front Cabinet Ass'y (CR27S20)	BD
1-1	*Not Available*	–	Front Cabinet	—
1-2	GCOVA0109GJKA	X	R/C Cover	AD
1-3	HBDGB1009MESB	X	Badge, "SHARP" (27R-S200/S400/S450, CR27S20)	AG
1-3	HBDGB1009MESA	X	Badge, "SHARP" (CSR20027)	AG
1-4	JBTN-0109GJKA	X	Button, Power	AE
1-5	JBTN-0110GJKA	X	Button, Menu, Vol-up/down, CH-up/down	AE
2	GCABB0111GJKA	X	Rear Cabinet (27R-S200/S450, CSR20027, CR27S20)	AY
2	GCABB0112GJKA	X	Rear Cabinet (27R-S400)	BB

CABINET PARTS LOCATION



PACKING OF THE SET



★ **MARK** : Not replacement items.

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